FEBRUARY 59

MODERN TEXTILES MAGAZINE

Specializing in Man-Made Fibers and Blends since 1925

FIBERS

FABRICS

FINISHES

Iselin – Jefferson's JOHN CROSBY-- no booster but ability rocket-powered his dazzling rise— story page 22

THIS MONTH'S LEADING ARTICLES

What to expect in textile marketing

All the facts about Eastman's polyester

New paths to better dyeing

New machines for rope, nonwovens

AND 11 MORE EXCLUSIVE REPORTS AND TIMELY FEATURES

Dependability is built into Draper looms . . . part by part

Regardless of size, shape or location, each part is engineered and manufactured to precise tolerances. As a result, *Draper* has become the accepted name for quality and dependability throughout the textile industry.

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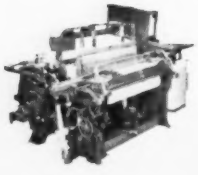

THE NEED: A carrier to improve stretch nylon processing

Stain was a problem in processing stretch nylon. The industry also needed positive means for yarn identification—and a collapsible carrier that would allow the yarn to relax uniformly throughout the entire package.

Extensive Sonoco research on these problems resulted in many new carrier tubes. Critical dimensional specifications were met and stainproof surfaces provided. These stretch nylon tubes were produced, as they are today, in an adequate variety for yarn identification. Lacquer tips, scores and notches are also available. And, because the strength of the tubes is rigidly controlled in manufacture, they collapse properly and aid considerably in the production of uniform finished yarn. Their use eliminates the need for more expensive methods in processing stretch nylon.

Only Sonoco, with its modern laboratory, engineering and production facilities, could solve these problems with an economical and efficient carrier. It is typical of countless cases where Sonoco leadership in the development of textile paper carriers, based on 60 years' experience, has benefited the industry. Let Sonoco help you!

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MODERN
TEXTILES MAGAZINE

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CONTENTS

Publisher's Viewpoint

A Time for Deeds not Words 19

Features

Trends in Textile Marketing—What to Expect in Coming Months 20
by Robert C. Shook

There's Still Room at the Top 22
by Jerome Campbell

New Frontiers in Dyeing 24
by John Boulton

New Nonwoven Machinery 34

New Machines, Methods for Man-Made Fiber Ropes 38

Brighter Outlook for Converters 55

AATT Papers

Properties of Eastman's Kodel Polyester Fiber 43
by E. V. Martin

How to Process Kodel 45
by R. C. Forrester, Jr.

How to Dye & Finish Kodel Fibers and Fabrics 49
by William R. Ivey, Jr.

The Principal Trade Groups

American Association of Textile Chemists and Colorists ..... Lowell Techn. Inst., Lowell, Mass.
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American Cotton Manufacturers Institute, Inc. ..... 1501 Johnston Bldg., Charlotte, N. C.
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Synthetic Organic Chemical Manufacturers Association ..... 41 F. 42nd St., New York
Textile Distributors Institute, Inc. ..... 469 Seventh Ave., New York

Departments

Textile News—Worldwide 30
New Machinery—New Equipment 36
New Fabrics—New Yarns 54
TDI News and Comment 55
Yarn Prices 56
Textile Newsbriefs 59
Calendar of Coming Events 74
Advertisers Index 74

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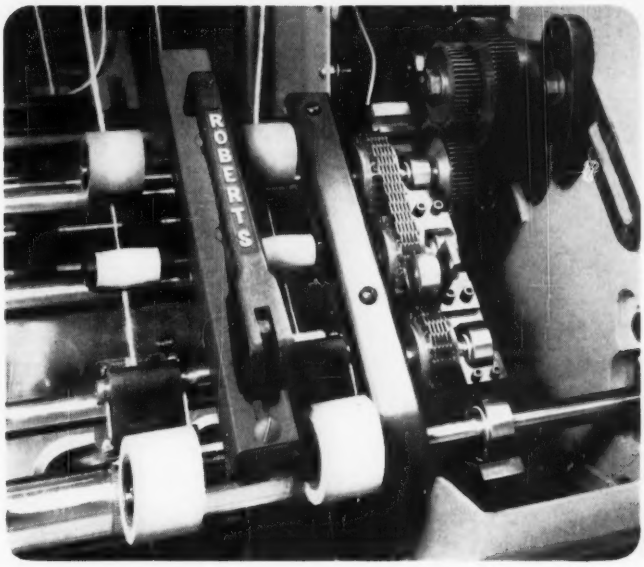

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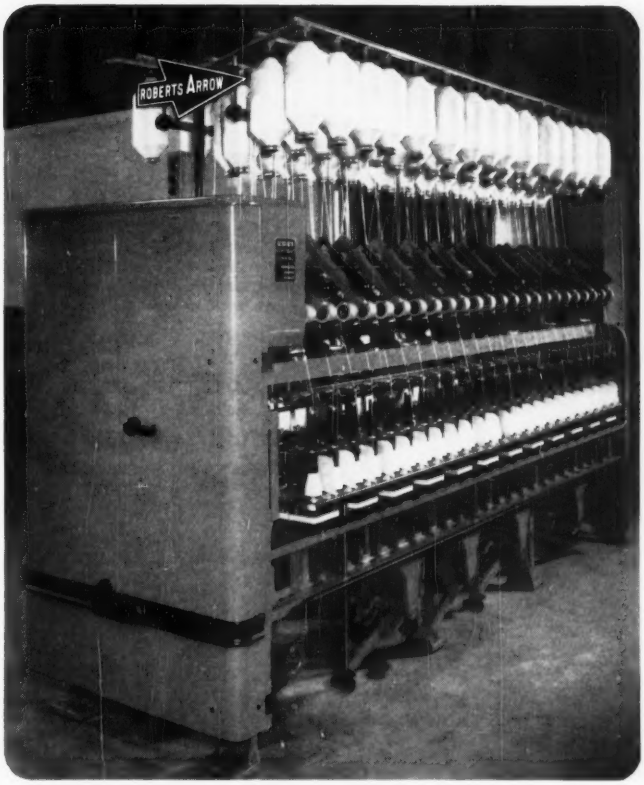

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Rugged Chassis with Ball Bearings Throughout

Unitized Sectional Construction

Four-Roll Double Apron Drafting System

For Long-Staple Spinning, 100% or Blended

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Actual mill tests have proved that the ARROW WM-2 Worsted Frame gives higher quality yarns with fewer ends down and more even running at higher drafts and higher front-roll and spindle speeds.

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Jacoby New MTM Dyeing Editor

Raymond W. Jacoby has accepted an appointment as dyeing and finishing editor of MODERN TEXTILES MAGAZINE, it was announced this month by A. H. McCollough, publisher. Jacoby will continue to carry on his work as a consultant in the textile wet processing industry, in addition to his duties with MODERN TEXTILES.

R. W. Jacoby

Widely known throughout the textile wet processing industry, Jacoby is a past president of the American Association of Textile Chemists and Colorists. He has presented papers before most of the sections of the AATCC and has published numerous articles, over the years, in professional and trade journals. He has given lectures on textiles and wet processing of fabrics at many schools and colleges including Brown University, Clemson College, Columbia University and Philadelphia Textile Institute. In 1951, he was awarded the Olney Medal by the AATCC for "outstanding achievement in the field of textile chemistry."

A graduate of Massachusetts Institute of Technology with the degree of B.S. in chemical engineering, Jacoby has been active in the textile wet processing industry for 47 years. He served in various capacities from plant chemist to plant manager before joining the Ciba Co. for which he worked for 20 years until his recent retirement. With Ciba, Jacoby served successively as technician, department manager and branch manager.

As dyeing and finishing editor of MODERN TEXTILES, Jacoby will write articles on current aspects of textile wet processing with emphasis on more economical ways of operating dyeing and finishing plants as well as ways of improving quality of output.

"We are immensely proud and happy to acquire Ray Jacoby's services as our dyeing and finishing editor," McCollough stated. "We feel that his broad and deep knowledge of textile wet processing plus his well-known ability as a writer will enable MODERN TEXTILES MAGAZINE to improve its service to the dyeing and finishing industry."

Milliken Research Progress

New end uses have been found for its texturized nylon yarns and no-iron finish fabrics, according to Deering Milliken Research Corp. At recent dedication ceremonies of new Milliken facilities in Spartanburg, S. C. it was announced that Agilon yarns would be used in men's and women's sweaters and knitted sportswear, as well as in carpeting.

Make Your Reservations Now!

The April Issue of MTM will preview the Knitting Arts Exhibition in Atlantic City, May 4 to May 8, 1959.

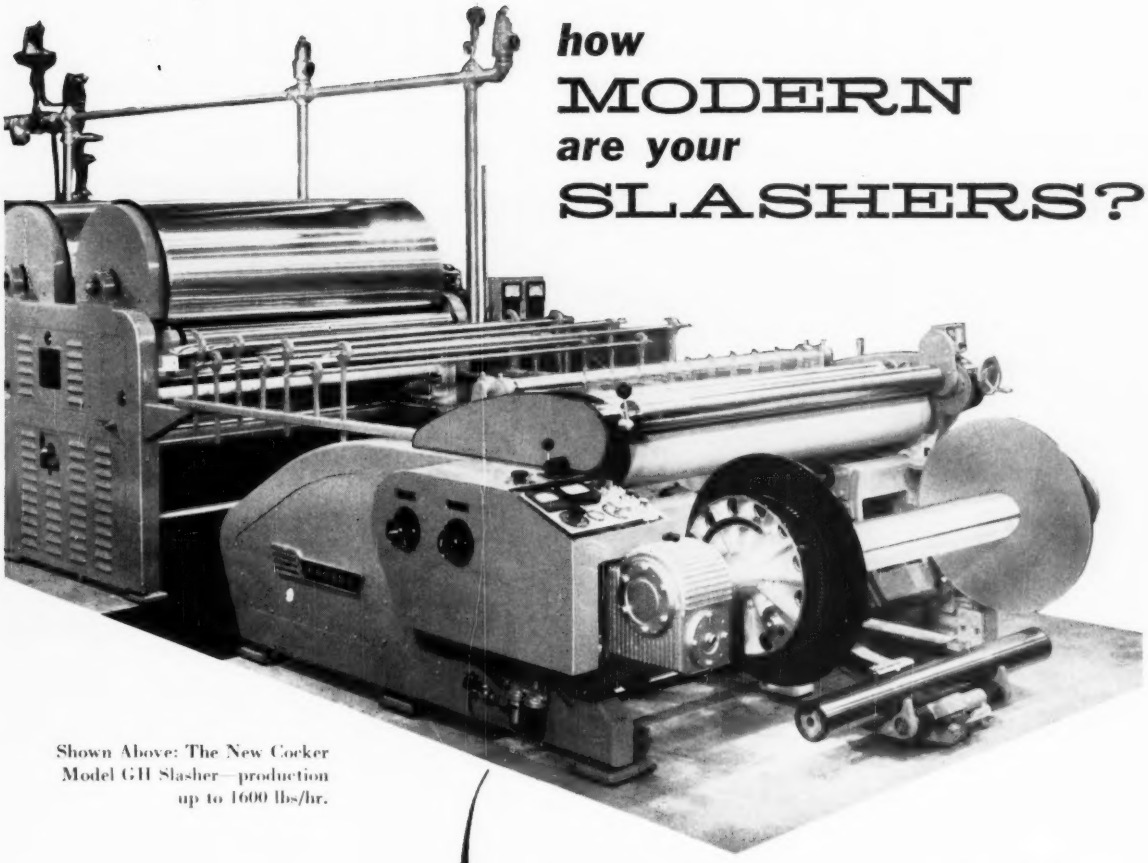
Closing date for Advertising Forms—March 5.

For advertising space in this important issue write

MODERN TEXTILES MAGAZINE

303 Fifth Ave., N. Y. 16, N. Y.

how MODERN are your SLASHERS?



Shown Above: The New Cocker Model GH Slasher—production up to 1600 lbs/hr.

Most of the important improvements on slashers were first introduced by Cocker. Many of them have since been adopted by others, but many valuable features are still exclusive on Cocker equipment. These features enable mills to produce more and better beams at lower costs. Here are some of them.

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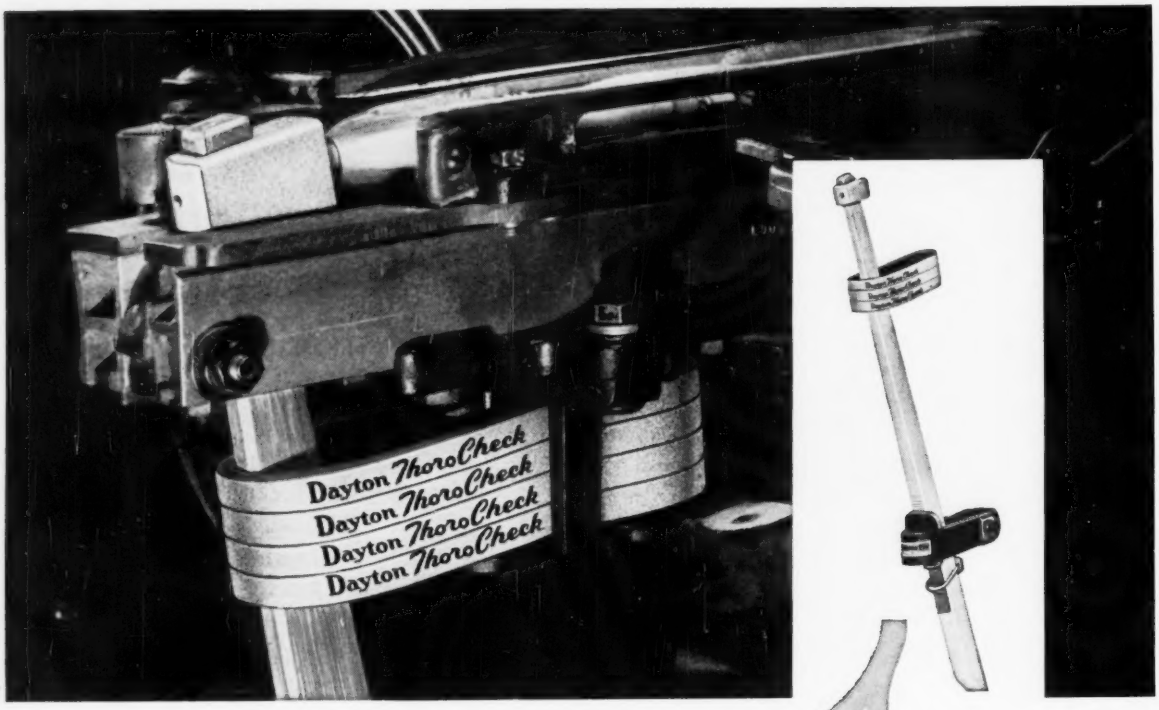

GET RIGHT TO THE SOURCE and you'll eliminate unnecessary downtime. Dayton has concentrated on perfecting a balanced combination of loop picker, check straps and lug strap . . . to protect all three points of shock and wear. And, it takes all three to absorb the shock of high speed shuttles, smoothly check the picker stick, and accurately deliver the shuttle return.

SHOCK ABSORBING Dayton Thorobred De-luxe-Lug Straps are molded together around a built-in plug that soaks up the hammering blows generated in the first instant of picker stick thrust. One-piece, link-free construction is the answer for longer service.

WEAR RESISTANT Dayton Thorobred Loop Pickers last. Here is why! Tilt of the picker face is perfect for shuttle contact . . . tapered hole and bottom insure accurate seating and protect against tearing the loop ply. Smooth, round corners prevent jerked-in fillings.

GRADUATED CHECKING ACTION of Dayton Endless ThoroCheck Straps with a stronger multi-ply construction . . . adds 6 to 8 months more of trouble-free service. With multiple straps to do the checking, there's never any drag nor interference with the shuttle throw.

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Start saving today by refitting your looms with the Dayton combination. Then compare the long life, freedom from downtime and, above all, the smoother picking action that only Dayton products can give you. Order through your mill supply jobber or write The Dayton Rubber Company, Textile Division, 401 S. C. National Bank Building, Greenville, S. C.

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* **Reduced needle cutting**
* **Greater resistance to creasing**
* **Increased seam strength**

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Make A-C Polyethylene a part of your present finishing practice! Your textile chemical specialties emulsion supplier either has an A-C Polyethylene finish or can formulate one for your specific needs. (We are manufacturers of Emulsifiable A-C Polyethylene resin, not finishing emulsions.) Investigate this superior finishing agent *now*—your fabrics deserve it! Just write or telephone today for complete information.

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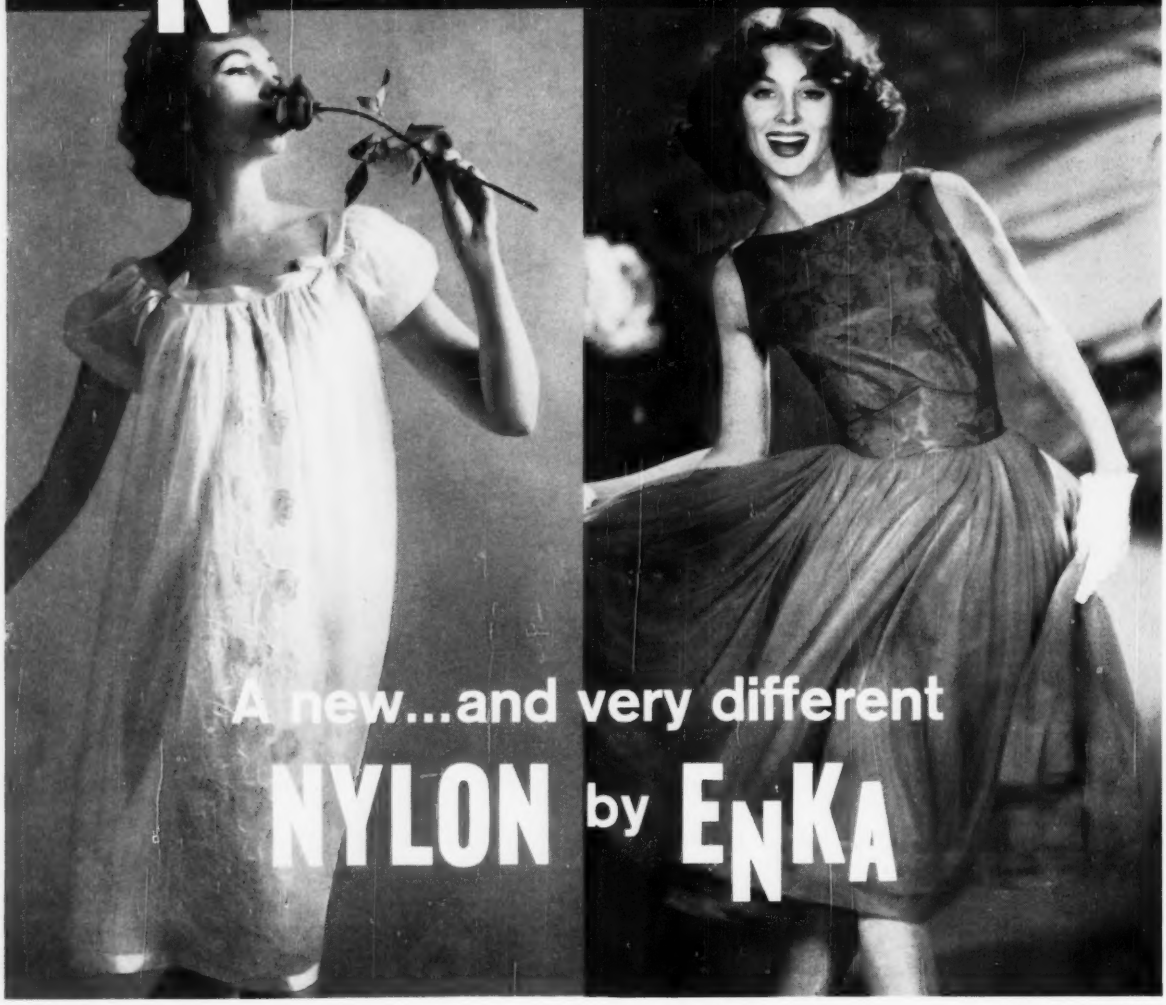

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Tricot converters agree that no nylon takes dyes like Enka nylon...the softer, more lustrous nylon that has taken the market by storm.

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It is an unbelievably soft yarn created especially for the things that women wear. National advertising, merchandising and publicity are carrying this compelling sales story to stores and consumers across the country.

Bold fashion ads and hangtags, counter cards and wall and window posters echo this profit-packed selling theme: "A new and very different nylon by Enka...especially for you."

Mills, converters, cutters, knitters, and manufacturers interested in hearing about Enka's "New...and Very Different Nylon" promotion supported by national advertising, merchandising and publicity, contact:

Mr. Arthur B. Harris, Jr. at Oxford 7-6141, Ext. 26, or contact the Enka sales office nearest you.

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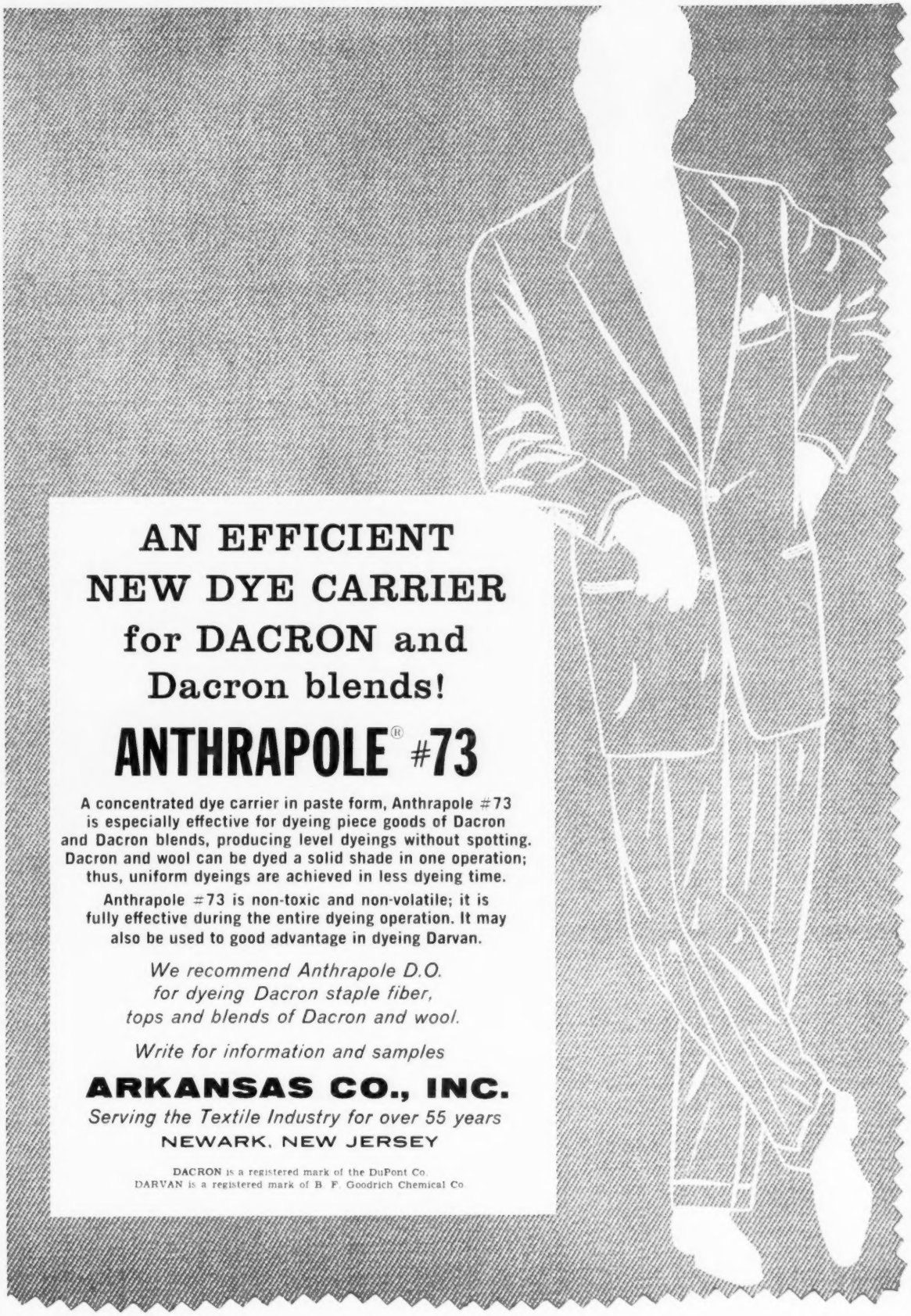

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A concentrated dye carrier in paste form, Anthrapole #73 is especially effective for dyeing piece goods of Dacron and Dacron blends, producing level dyeings without spotting. Dacron and wool can be dyed a solid shade in one operation; thus, uniform dyeings are achieved in less dyeing time.

Anthrapole #73 is non-toxic and non-volatile; it is fully effective during the entire dyeing operation. It may also be used to good advantage in dyeing Darvan.

We recommend Anthrapole D.O. for dyeing Dacron staple fiber, tops and blends of Dacron and wool.

Write for information and samples

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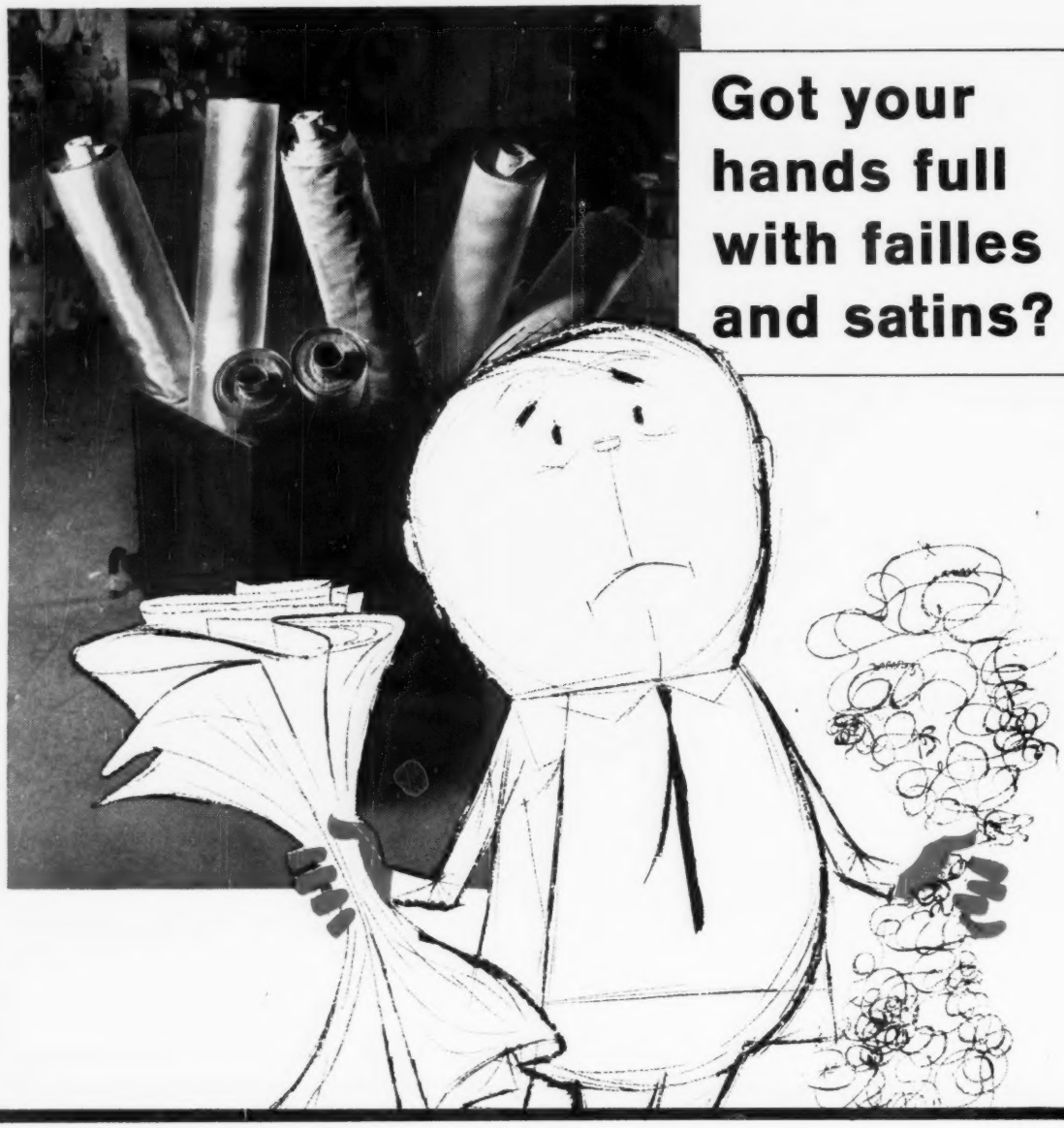

Got your hands full with failles and satins?

When a fabric's face is your fortune, how can you leave things to chance?

Yet, when you weave critical fabrics like failles and satins from ordinary rayon yarn, you're handing yourself many chances that knots and fluffs and slubs and dye-streaks will mar your yardage!

You see, ordinary rayon is handled many, many times in its processing. From the chemical treatment stages to the final coneing or beaming, hundreds of pairs of hands add to the hazards.

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Surprisingly enough, it costs no more!

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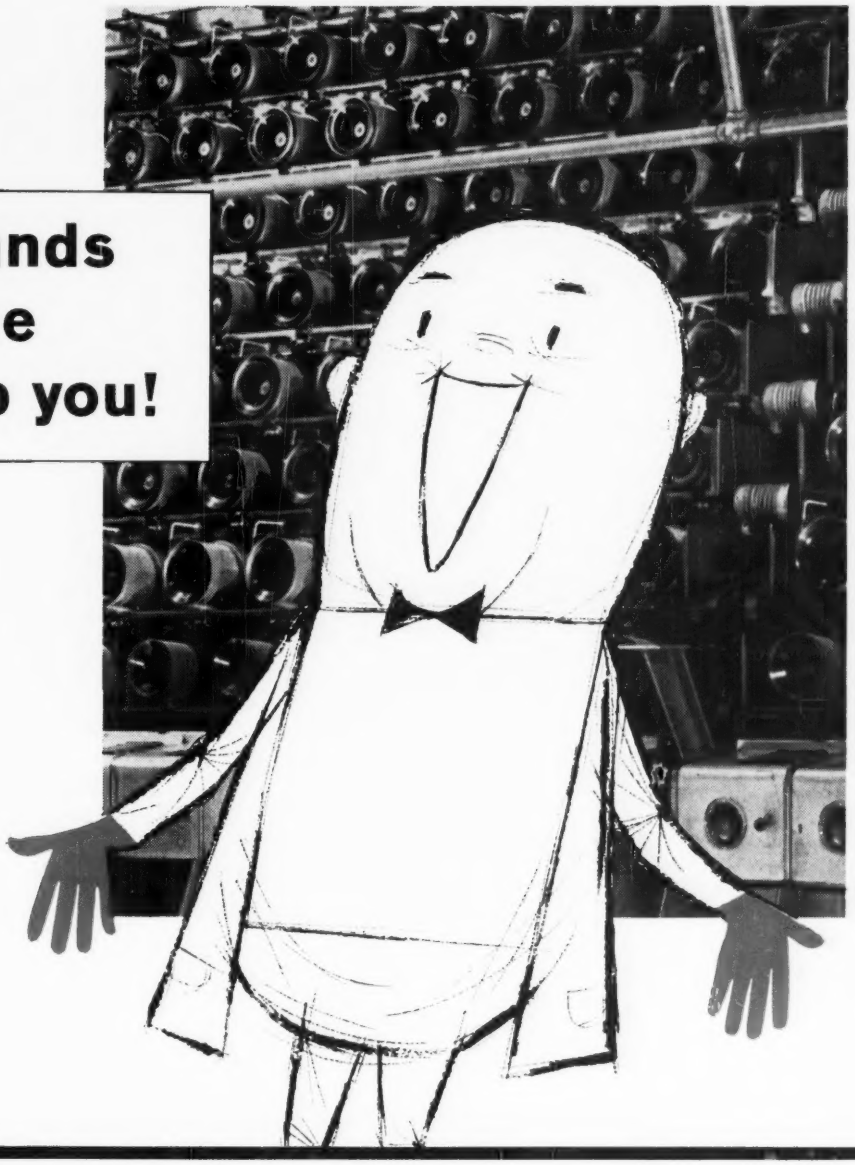

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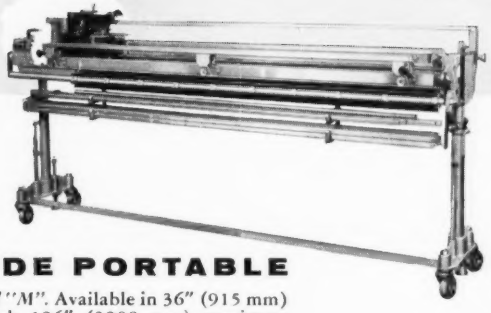

WIDE PORTABLE

Model "M". Available in 36" (915 mm) through 126" (3200 mm) maximum warp width capacity. Multiple frames permit advance loading. Three types provide different methods of selection.

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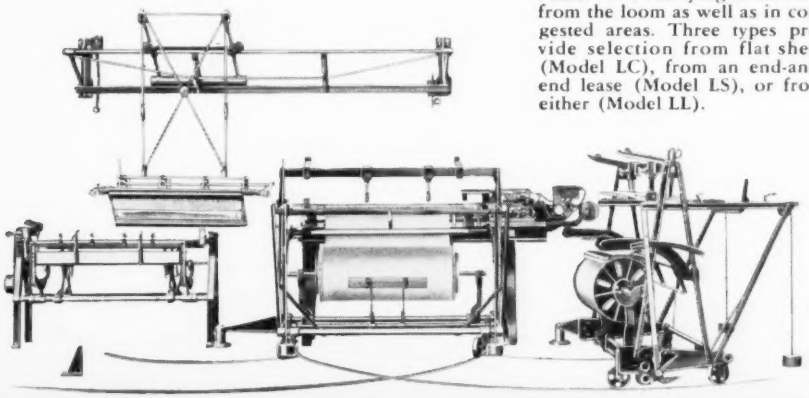

STATIONARY

Model "EL". Designed for use in mills that concentrate on simple weaves. Available in 46"(1170 mm) through 116" (2950 mm) maximum warp width capacity. Tying ahead saves substantial down time at the loom. Selects from flat sheet only. For cotton and spun yarns.

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2. The name must be used properly and identified as a registered trademark of American Bemberg — as described in our free booklet: "The Proper Way to Use Our Trade-Mark, Cupioni."

Before featuring Cupioni in tags, labels, or advertising, write for the two free booklets . . . be sure you are complying with the rules. Unauthorized or illegal usage will be vigorously opposed.

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Naturally, we are best known as a quality service for the dyeing of cotton, wool and worsted yarns. These are the oldest fibres and we have been in business for nearly half a century. However, don't forget that we do equally good work on the new synthetic spun fibres and blends, as listed herewith.

There are many reasons for Franklin Quality and Service: — unequalled experience, 4 conveniently located plants, a yarn department, an extra soft finish for knitters, laboratory control, an eagerness to serve, etc. But the biggest reason is the Franklin Spring. This permits harder packages to be compressed less and softer packages to be compressed more into a solid column of uniform density. Hence penetration of the dye liquor is uniform and level shades result.

No matter what your fibre — natural or synthetic — have it Franklin dyed. Get *recognized* quality — quality it will pay you to talk about.

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caprolan®

TEXTURED YARN SEMINAR

KEEP YOUR CUTTING EDGES KEEN

More and more mills are moving ahead with the new textured filament yarns. In making the switch, a basic knowledge of the characteristics of the new yarns will help you avoid problems and improve your profit margin.

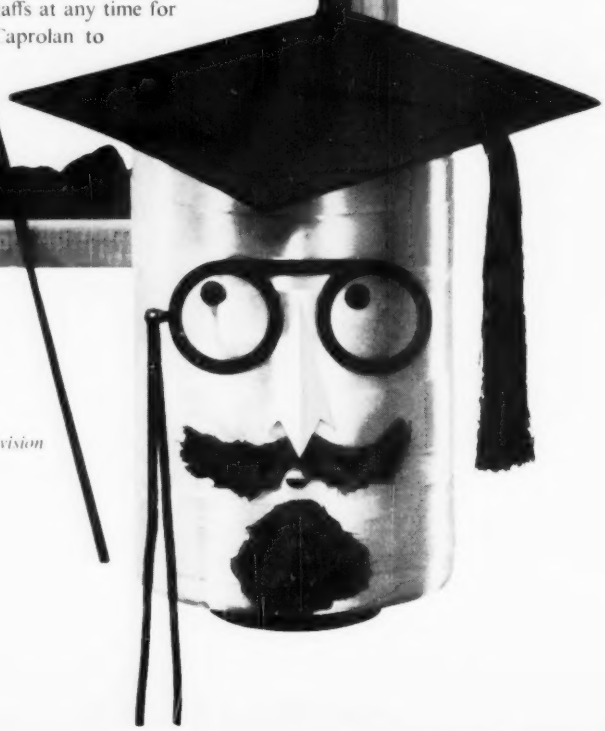
FACT: **Textured Filament Yarns And Spun Yarns Are Not The Same**

Consequently, your ordinary methods of running spun yarns need certain adaptation for maximum success with textured filament yarns.

EXAMPLE: In tufting textured filament yarns for cut-pile fabrics, knife edges are extremely important if cutting streaks are to be prevented. Careful attention, and the keenest cutting edges are essential.

IDEA: Sharpen knives frequently. Use of a clamp on your emery wheel can provide a uniform knife angle and sharper cutting surfaces.

This is one of the simple steps that can help you get best results with Textured Caprolan*. Call on our technical service, end-use development, and fiber application laboratory staffs at any time for additional help in adapting Textured Caprolan to your product lines.



Trade Mark—Allied Chemical's polyamide fiber

Fiber Sales and Service Allied Chemical *National Aniline Division*

261 Madison Avenue, New York 16, N.Y.

#5 of a series

MODERN TEXTILES
Magazine

Publisher's Viewpoint

A time for deeds not words

As the new year gets well under way, our great American textile industry finds itself at an important turning point. The one overriding issue that confronts the industry is whether it will be able to put itself on an enduringly profitable basis. It is agreed by virtually all connected with fabric manufacturing that operations during the past five or six years have not been satisfactory. The overall return on invested capital in textiles has not been sufficient to insure the continued maintenance of this indispensable industry on a basis of sound replacement of its productive facilities and their necessary modernization and expansion to keep pace with the growth of our population and rising standard of living.

If all the many and varied ills of the textile industry could be summed up in one word, it is unanimously the opinion of all who understand its workings that the one word would be—overproduction. And it is the unanimous opinion of the industry's leaders and informed friends from outside textiles that the cure of this basic illness lies in bringing production in line with demand.

The Acid Test

But can the industry accomplish the task of curtailing its traditional, and up till the present, incorrigible tendency to overproduce? On this matter much has been said and will be said by the industry's key people. In the year ahead, the acid test will be presented—whether the industry, in the matter of limiting its output to keep from overwhelming the market with unneeded goods, can substitute deeds for words

The question of curtailment is at the moment an urgent one. As this is being written the wave of stronger demand for gray goods that began to develop late last year is rising to increasingly greater proportions. One of the largest selling houses, for an example of the kind of recovery our industry is currently experiencing, reported as we went to press that it had just booked the biggest week's business in man-made fiber fabrics in the company's history.

But recovery in demand, it is pointed out by experienced textile merchants, makes more difficult the achievement of a widespread willingness to curtail output. These seasoned market men say that when business is slow and prices too low for even a slight profit, everyone seems to be willing to curtail. Talk of curtailment is then loudest and most emphatic, for, as the old proverb says, "when the devil is sick, the devil a monk would be."

When Resolutions Waver

But when the upward swing of the demand cycle begins to show itself, as is now happening, then many millmen, formerly eager, at least in their talk, to curtail output forget their good intentions in the rush to produce to meet the spurt of new business. But all too often the speeded up production in response to a favorable market results in no time at all in too much output.

The fact that the present revival of the market can lead to this familiar and unfortunate turn of events is why we say that the months ahead will be crucial ones for textile manufacturing. Will management be strong-minded enough to hold to their expressed determination to keep gray goods output from swamping the market?

If they can do this, and if they can hold out for better prices, then the textile industry may have reached a historic turning point—the threshold of a new era where reasonable profits will be possible. But if the industry once more is carried away by the short-lived optimism born of a wave of better demand and remains in the old, deplorable rut of producing more than it can profitably sell, then there is indeed little hope for a brighter future for textiles. The next six months may give us the answer.

A. H. McCullough

caprolan®
TEXTURED YARN SEMINAR

KEEP YOUR CUTTING EDGES KEEN

More and more mills are moving ahead with the new textured filament yarns. In making the switch, a basic knowledge of the characteristics of the new yarns will help you avoid problems and improve your profit margin.

FACT: **Textured Filament Yarns And Spun Yarns Are Not The Same**

Consequently, your ordinary methods of running spun yarns need certain adaptation for maximum success with textured filament yarns.

EXAMPLE: In tufting textured filament yarns for cut-pile fabrics, knife edges are extremely important if cutting streaks are to be prevented. Careful attention, and the keenest cutting edges are essential.

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A. H. McCullough

Trends in textile marketing

What to expect in coming months

By Robert C. Shook
CONSULTING ECONOMIST A. W. ZELOMEK ASSOCIATES, INC.

WHETHER TEXTILE SALES AND PROFITS will maintain or extend their improvement in 1959 is a question of great interest to readers of MODERN TEXTILES MAGAZINE. The increase in textile activity from the low point reached early in 1958 has been encouraging. Particularly in the latter part of last year, order backlogs were increased substantially. The textile price structure became stronger. Operating margins, though still below levels at which processors would like to see them, seemed also to be on the road toward recovery.

An extension of these gains would make favorable comparisons with the trend in 1958 and the latter part of 1957. Consequently, it is the purpose of this article to evaluate some of the factors which will influence later developments. In the long run, nevertheless, more will be gained by recognizing some of the serious problems which confront the industry than by concentrating solely on developments which may stimulate a higher level of activity in 1959. And since the textile outlook is as complex as the industry itself, this discussion will limit itself to the following questions:

1) *How long will it be before the industry again enters a period of over-production, excessive inventories and depressed prices?* We ask "how soon will bad times come again" rather than "how long will good times last" in order to remind readers that the curse of this industry is the violence of its cyclical movements.

2) *What basic changes are there, whether internal to the industry or external, which will tend either to magnify or subdue the violence of these cycles?*

3) *What forces are there which may encourage a stronger attack on the unsolved problems of textile distribution and merchandising?* Limiting the periodic excesses of production, desirable though it is, represents a negative approach. What is needed even more is a positive program, which will strengthen the industry's competitive positive; derive for it a greater share of total consumer expenditures; and lead to a higher profit ranking for this industry in comparison with others.

1959 Outlook For Textiles

Textile managements can safely concern themselves chiefly with textile problems in 1959, and forget about any big increase or decline in general business activity from 1958 year-end levels.

A moderate extension of last year's recovery, and a sustained rate of business activity at around early 1959 rates, are the logical expectations. Any marked deviation from this pattern would most likely be the result of "unpredictables," such as a steel strike next Summer.

Chief forces supporting gross national product and disposable income moderately above a year ago will be:

An active building and construction industry.
Moderate increases in total government spending, state, local and Federal combined.
Consumer spending in line with the expected increase in disposable income above a year ago.
A reversal of the business expenditure curve for new plant and equipment from a sharp descent to a moderate rise.
A reversal of business inventory policy from one of drastic liquidation to one of conservative accumulation.

On the restraining side, on the other hand, there are also some powerful forces. Among these one of the most important is the common knowledge among purchasing agents that most industries, even at current improved rates of activity, are operating comfortably below (or uncomfortably, depending on the viewpoint) their peak practical capacity. Under such conditions we can hardly expect strong price advances or a revival of active inventory accumulation. Neither can we expect industry as a whole to engage in major plant expansion programs.

Within the textile industry itself, the chief economic problem is to balance production to demand, and thus to prevent or limit the cycles of inventory accumulation and liquidation. The problem is an old one, but a few new elements have been added. For example:

Next season's cotton prices will be substantially below this season's average. As this season draws to a

(Continued on Page 26)

Manufacturers of washable apparel have long awaited the development of a LANOLIZED finish on no-iron fabrics . . .

NOW IT'S READY...

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Designed for application on cottons as well as nylon, "Dacron", "Orlon", "Acrilan", rayon and almost all synthetic fibers, alone or blended.

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Manufacturers of wash-and-wear apparel who seek maximum comfort in the fabrics of garments worn adjacent to or against the skin, are invited to write or call for more details—

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By Jerome Campbell
EDITOR, MODERN TEXTILES MAGAZINE

The story of Iselin-Jefferson's John Crosby shows that outstanding marketing and executive ability is highly prized in today's textile industry.

There's still room at the top

IN NOVEMBER 1945, a young man freshly released from the Air Force was looking around for a job as a salesman for one of the larger New York fabric selling houses. Analyzing his prospects and what he had to offer with the hard-headed realism of which he was remarkably capable, he felt that his chances of getting the kind of job he wanted were fairly good.

From the viewpoint of his business future, as he saw it, he attached little significance to the fact that he had served with distinction for four years in the Air Force, having entered as a private and having been discharged as a first lieutenant with 48 combat missions to his credit. And he had already put away in a drawer along with his uniform and other mementos of war service the impressive array of decorations he had earned in combat. They included, to mention only a few, the air medal with four oak leaf clusters and the Asiatic-Pacific Theater ribbon with seven battle stars.

More important than military aviation experience for the employer he was seeking, he thought, was his experience in the wars of fabric selling which the young man believed was pretty extensive and varied for a man who was only 28 years old and had spent four of these years in military service. Before enlisting in the air force he had worked for six years with one of the most formidable and respected textile brokerage houses. And he felt, quite reasonably, that it would impress any prospective employer when he pointed out that he had been earning $10,000 a year as a salesman specializing in synthetics at the time he enlisted—not a bad record, he thought, for a man who was then not yet 26.

He believed then with apparent good reason that he had something valuable to offer to a selling house looking for a thoroughly seasoned young salesman. He picked out three of the biggest mill selling houses, and one by one, made his calls, telling his story. He received an attentive hearing at all three, vague talk about future possibilities, but not the concrete offer of a job that he wanted.

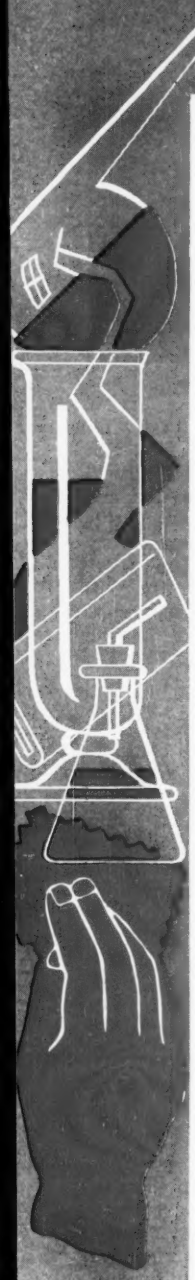
Eager to cut through the double talk and hemming-and-hawing and come directly to the point as was his way then as now, the young man told the fellow on the other side of the desk at the largest of the selling houses that he was willing to go to work without salary or drawing account. He had confidence in his ability to make the sales that would earn him substantial commissions. But the hiring man said well, ahem, the facts are . . . your offer . . . a little unusual . . . company policy doesn't permit . . . but keep in touch . . . perhaps in a few months . . . In short, the young man correctly interpreted, nothing doing.

Back on the street, the young man said to himself, "the heck with all this. I've wasted enough time." He had a job waiting for him at his old shop, and the next morning, bright and early, he was back at the desk he had left four years earlier, his coat off and ready to go to work.

Our young man was John B. Crosby, today vice president and general sales manager of Iselin-Jefferson Co., and the shop to which he went back was Scheuer & Co., that eyrie that has nurtured many an eagle of gray goods merchandising including such men as Dave Gelb of Burlington, Jim Hackett of J. P. Stevens, and Jack Altman of United Merchants and Manufacturers.

(Continued on Page 53)

DYEING and FINISHING SECTION



BLEACHING
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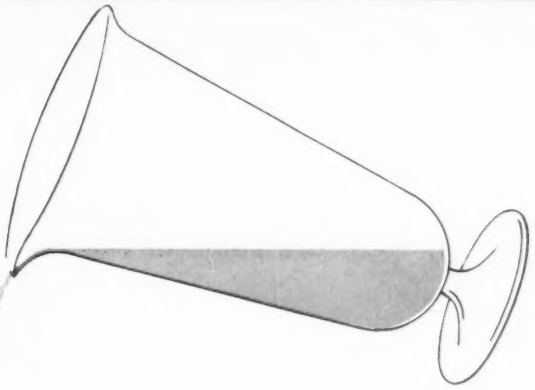

Project: **Research a new fiber . . . design and build a pilot plant — everything from spinning equipment to dyeing, bleaching, and finishing machines.**

Solution: **Call on Butterworth.**

Butterworth offers a unique combination of facilities — research, engineering, machine building.

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Butterworth is the largest independent manufacturer of synthetic fiber machinery. Add to this Butterworth's long experience in the design and building of machines for the wet end of textile finishing . . . No wonder miracles are made to happen at Butterworth!

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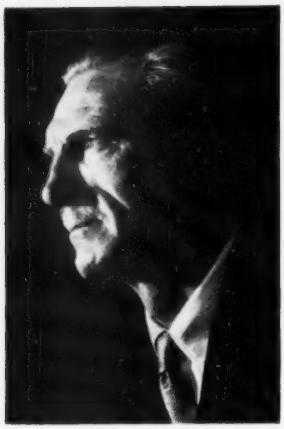
new frontiers in dyeing

Theoretical research is transforming an old art. Here are some of the probable results.



John Boulton

THE NEAR FUTURE will bring many innovations in the techniques of dyeing cellulosic fabrics aimed at improving the uniformity of dyeing results while reducing dyeing costs. This point was made in a talk on the dyeing of cellulose by John Boulton, manager of the research laboratory of Courtaulds, Ltd., Droylsden, England, as part of a colloquium at a recent meeting in New York of the American Chemical Society. Speaking of the value of theory in advancing dyeing technology, Mr. Boulton said:

The principal result of research into dyeing has been that dyes may be characterized according to their technical behavior during the dyeing process and, as a consequence of this, the dyer has gained greater control over his material. Thus, the method of commercial dyeing whereby the artisan got his results by trial and error, i.e. by the employment of artful dodges known empirically to him, is obsolescent. Unfortunately it is not obsolete. But sufficient data on direct and vat dyes ultimately of a physicochemical nature readily translatable in terms of observable and controllable behavior have been systematized that formula-dyeing, controlled largely from the laboratory, is possible.

The value of dyeing kinetics data as an aid to application has been recognized by the dyemakers. At one time dyes were sold on fastness, hue and price. They are now also characterized, on pattern cards and in servicing literature, by dyeing rate, and the influence on dyeing characteristics of temperature and salt addition.

Understanding of the relative importance of the rate determining factors in dyeing, the functions of salt and temperature particularly, has enabled the dyer to obtain results of greater uniformity and wet fastness, and to choose compatible dyes for his inevitable mixings.

It is recognized that the higher the temperature of dyeing in general, the better the distribution of dye, and higher dyeing temperatures are being employed. Jigs and winches are more often found closed with a consequent saving of heat as well as producing greater control of dyeing. In the package dyeing of yarns and fibers, machines are being operated under pressure and at temperatures much above the boil. Recognizing the importance of rapid initial distribution of dye has led to the redesign of packages of yarn, especially rayons, for dyeing in circulatory machines, and to the use of higher liquor pumping speeds which have shortened dyeing time as well as giving better results.

The setting up of a simple mathematical model of the enclosed circulatory dyeing system and a critical examination of all the parameters involved has led my colleague, Armfield, to redesign completely this relatively simple machine so as to make use of very much less water and yet get dyed results more quickly and to a higher standard of uniformity with dense masses of viscose rayon. The trade has always insisted that the more water one used the better the chance of producing a level result. Theory stated the opposite should be the case in a circulatory system and it was easily demonstrated that this was so.

Not long ago dyeing was an art. Research over the last 25 years has transformed it into a well comprehended technology. At the same time we have come to realize what a complex process the dyeing of a fiber really is. As a technical operation it is hazardous and as a commercial undertaking it is expensive. The problems before us now are those of reducing the hazards and, if possible, the relative costliness of dyeing operations.

The object of dyeing is the uniform coloring of economically large masses of fiber, yarn, or fabric to standards of fastness appropriate to a given trade. Are there, in the case of cellulose, any better techniques available, or possible, than the slow diffusion and re-distribution of water-soluble dyes from aqueous dyebaths? There are several concrete and practical answers to this question.

The Outlook

We can consider dyeing, as we knew it when theoretical research got under way, as the process of encouraging very small amounts of dye to transfer into cellulose from very large bulks of water under the influence of time and heat. Time is expensive, heat is expensive, the transfer process is hazardous.

The first real break with tradition came with the pad steam method, developed by Du Pont, in which concentrated dye solution is padded on to continuously moving cloth which passes into a steaming zone where thermally activated dye diffusion takes place. The mechanical pressure of pad rollers replaces Brownian movement as the dye-distributing agency; controlled feed of a concentrated dye solution replaces juggling with dyebath electrolytes in determining the amount of dye distributed; steam replaces warm water for providing heat activation of the diffusing process, and a high-production continuous process replaces a low-production batch process.

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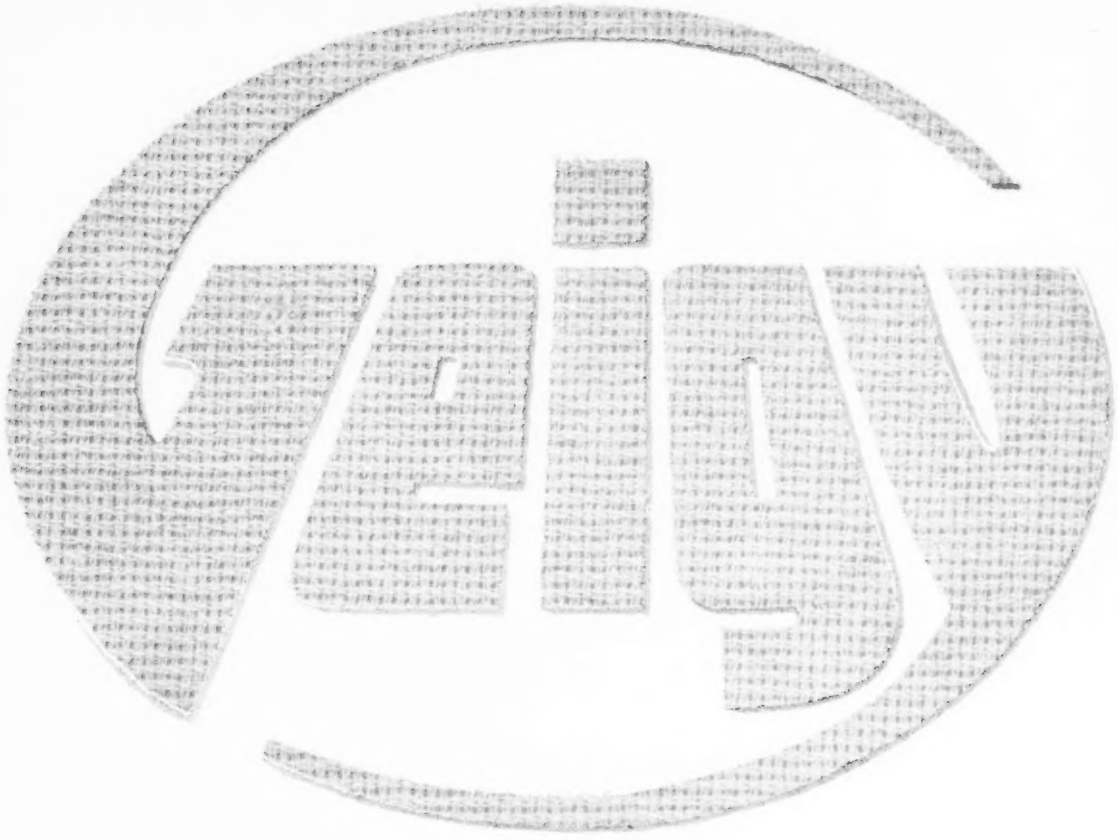
PROGRESS
KNOWS NO PAUSE



In our fast-moving world of today marking time is the same as slipping backward. For to progress means to move forward. Ever since 1859, when Geigy made its first synthetic dyestuffs, it has expressed its faith in textiles over the years by reinvesting a substantial part of its earnings in a continuing, intense and extensive research program.

As a result Geigy has been privileged to supply the textile industry with many revolutionary dyestuffs and auxiliary products, some of them history-making firsts that led to new and improved techniques in dyeing and finishing.

Geigy, represented in all corners of the globe, continues to contribute many outstanding achievements to the textile industry, and wishes, at this time to pledge itself to continue to strive for still greater contributions in the years ahead, keeping the faith with textiles by furnishing the industry with products of progress.

GEIGY DYESTUFFS

Division of Geigy Chemical Corporation, Saw Mill River Road, Ardsley, New York
BRANCHES IN ALL TEXTILE-PRODUCING CENTERS

Textile Marketing

(Continued from Page 20)

close next Summer, buyers of cotton fabrics and staple finished products would therefore become increasingly cautious in placing forward orders, if this were the only consideration. But there is another:

The drive for an increase in the Minimum Wages to $1.25 an hour is receiving strong industry support. If an increase in the Minimum Wage is voted by Congress to become effective say early in 1960, the effect of this factor alone would be encouraging to buyers to place substantial forward orders for staple fabrics and finished products, in advance of the effective date, as they did the last time there was an increase. As a factor in cloth and garment prices, which is what buyers will be concerned with, the higher Minimum would tend to offset the lower price for new crop cotton.

The final new element which has attracted attention is the firm statement by leading mill managements that they would limit production to orders, and at least avoid the excesses in their own gray cloth inventories which have been so costly in the past.

Few will question the wisdom of this expressed intention, but many will have strong doubts about its actually being carried out. Hell is paved with good intentions. It is much easier to promise a better control of production when orders are small than actually to limit production when backlogs have been built up. The pressure of excess looms, and the belief demonstrated so frequently in the past by individual mills that "I can produce it cheaper than you can if I run enough of my looms long enough", are still forces to be reckoned with.

Moreover, even if we believe mill managements as a whole will resist temptations which in the past have been irresistible, we must still recognize the fact that little or no factual information is available on which to base a rational operating policy. How can excess production be avoided when there is no way to gauge how much production is enough? As expressed recently in the Letter published by Henry Bache Associates: "It is incredible how little most textile men know of conditions in their market. Outsiders, in particular, have wondered how an industry can so largely operate on guesswork. Even more incomprehensible is the fact that textile men are convinced that they can exercise good judgment in the absence of facts."

Whether it turns out that mills can't limit production because they won't, or won't limit production because they can't, the end result will be much the same.

Timing of the next cycle of inventory excess, therefore, will be determined by buyers rather than sellers. If by late Spring caution in ordering develops, in anticipation of much lower cotton prices, then the next decline in textile production may begin to appear before 1959 is over, but should be limited in extent. If, on the other hand, a higher Minimum Wage is set, and buyers cover heavily in anticipation of higher prices, then the present recovery in textile activity could easily be extended into 1960. In such case, however, there would almost certainly follow a painful and protracted period of digestion.

Bigger Cycles, or Smaller Ones?

It has been predicted that the boom-and-bust pattern in textiles will become worse. Exports and the industrial market are shrinking in relative importance; dependence on the consumer market is increased correspondingly, and more guesswork is involved in supplying the latter than there is in the former. The violence of the textile cycle, it is argued, can therefore be expected to increase.

However, there is a counter force at work within the consumer market. The revolution in income and its distribution have greatly increased the demand for more highly-styled textile products. Staple fabrics and garments, which can be bought ahead without the risk of fashion obsolescence, have diminished in relative importance. To this extent, buyers are restrained more than they were in earlier years from speculative buying, and sellers from inventory accumulation. Unfortunately, this development acts more as a restraint on cutters and converters, who are exposed to styling risks, than it does on gray mills. And apart from the fact that staples are still important, although less so, buying so limited that it reduces inventory risks in fashion or seasonable merchandise, may also be so limited that it loses sales.

Non-Cellulosic Surplus

Just as the problem of adjusting to a lower level of cotton prices has critical importance for cotton mills, so has the problem of rapidly increasing excesses of fiber producing capacity for the man-made fiber section of the industry. This situation is particularly acute for non-cellulosic fibers, as the following table shows:

NON-CELLULOSIC FIBER PRODUCTION, 1957
(in millions of pounds)

	Yarn			Staple & Tow		
	1957	1958	Percent Change	1957	1958	Percent Change
1st Quarter	79.2	65.8	—16.9	41.9	42.3	+ 1.0
2nd Quarter	81.9	73.5	—10.3	44.4	40.1	— 9.7
3rd Quarter	87.8	84.1	— 4.2	46.9	37.9	—19.2
9 Months	248.9	223.4	—10.2	133.6	120.3	—10.0

Source: Textile Organon

Both staple and yarn production declined during the first three quarters of 1958 as compared with 1957. For both yarn and staple, however, further increases in capacity are scheduled for 1959 and 1960. By late next year, for example, the capacity to produce non-cellulosic staple and tow will be approximately twice as great as consumption in 1957 and 1958.

It is plain that a strongly competitive era has developed. In the case of non-cellulosic yarn, the outcome of the battle between rayon and nylon for the original equipment tire market will be a decisive element. For non-cellulosic staple, the problem is somewhat more complex. It involves the expansion of established markets in some cases and the development of new ones in others. The problem of non-cellulosic staple is further complicated by an atmosphere of increased competition not only of one non-cellulosic fiber with another, but of non-cellulosic fibers with natural fibers.

In this era of inter-fiber competition, one of the factors having considerable short-term importance is a drastic change in price relationships. We note on one hand that wool consumption has decreased substantially as acrylic fiber production has gained:

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finish since synthetics began!

ASTON ANTI-STATIC FINISH — FOR ALL SYNTHETICS

WANTED BY THE CONSUMER—FOR COMFORT

Think of offering slips that never cling or ride up from static! Dresses and sleepwear that never become hot or clammy . . . that throw off moisture and heat to comfortize for all-season wear . . . "Men's" suitings that never attract lint, dust, or dirt.

WANTED BY THE MANUFACTURER—FOR PRODUCTION EFFICIENCY

ASTON provides static free, smooth production . . . prevents lint attraction from one fabric to another . . . is easy to apply.

WANTED BY THE GARMENT MAKER—FOR BETTER CUTTING

Astonized fabrics cut smoothly . . . will not creep.

WANTED BY NURSES, DOCTORS, OTHERS—FOR SAFETY

Astonized fabrics are static-free . . . will not cause sparking where inflammable or explosive material is present.

WANTED BY CONVERTERS AND BUYERS—FOR GREATER SALES!

Astonized fabrics sell faster . . . open an entirely new sales world for all concerned with fabric and finished garment sales. And talk about promotability . . . "ASTONIZED" is your "Buy Word" of the industry. Aston's acceptance is already attested to by the many well-known companies that have been licensed for its use.

WANTED BY ALL INDUSTRY—FOR SAFETY AND COMFORT

Many applications exist for Aston in general industry wherever static electricity is a problem: in the manufacture of phonograph records, for Acrilan auto fender covers, for printing press rollers, to mention a few. If you have a particular static problem, tell us about it—chances are our anti-static chemists can help you.

ASTONIZED FABRICS

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ONYX CHEMICALS

Jersey City, N. J.

WOOL CONSUMPTION AND ACRYLIC STAPLE PRODUCTION
(in millions of pounds)

	Wool Consumption	Acrylic Fiber Production
1953	368	11
1954	278	25
1955	290	52
1956	306	75
1957	251	106
1958*	213	

*Estimated decline of 15%

Last year, however, wool prices declined sharply. Although there has been some advance from last year's low, the price differential in favor of wool is still much greater than it was in earlier years. This fact has already influenced many spinners in their choice of fiber. Eventually, acrylic fibers along with the other non-cellulosics, will establish their markets according to their intrinsic values, as they have in the past. Temporarily, however, price considerations are highly important in the textile industry, and this is one of the competitive relationships which will influence activity in 1959.

Distribution of acrylic fibers has also been highly concentrated in a limited number of markets. In 1957, for example, it can be estimated that 70% or more of acrylic fiber producion was used in sweaters and other knit fabrics, carpets, rugs, blankets and other soft fabrics. Another 13% or 14% of the supply went into exports. Gains have been made in suiting and slack fabrics, but these have been comparatively slow.

Polyester staple, on the other hand, shows a substantially wider distribution. Almost 60% of the supply is estimated to have been spun on cotton spindles chiefly in blends with cotton and rayon. Total spun yarn fabric production probably exceeded 200 million yards, with a fairly substantial distribution into women's blouses, women's dresses, lingerie, men's regular and sport shirts, men's undershorts and pajamas, infants', children's and girls' dresses and blouses, boys' furnishings, outerwear jackets and rainwear, and men's suiting and slack fabrics.

Nylon staple, of which production is still limited, has been concentrated heavily in carpets and rugs, with smaller but increasing amounts used in cotton blends for work clothing and boys' wear.

Effects of Increased Competition

It is typical of the industry that it responds to increased competition. Many of the important technical and merchandising accomplishments of the past have developed under the pressure of cyclical declines or increased competition. In view of the increasing importance of man-made fibers, and the fact that they are produced by large research-minded companies, it is reasonable to expect that such progress will be more rapid in 1959 and 1960 than it has been in earlier periods.

To some extent, some activities are already underway. It is possible, therefore, to outline some of the significant directions in which new efforts will be expended.

1. **Technical**—Technical research, of course, continues without interruption. Under circumstances now developing, more effort is likely to be expended in modifying existing fibers to improve their processability on different spinning systems, or to make them more appropriate for various end uses.

Recent developments in polyester fibers serve as an example. One condition a fiber must meet in order to achieve wide distribution in a variety of end uses is spinnability to a wide range of yarn counts. In the case of polyester fibers, most notable gains to date have been in relatively high count yarns, whether in worsted blends or in blends with cotton or rayon. Lower count yarns were spinnable, but pilling presented a problem in the fabric and the finished garment. *Recent and forthcoming polyester fibers are intended to overcome this limitation, broaden the range of yarn counts and extend the end-use distribution of this fiber.*

2. **Merchandising**—Greater efforts are already apparent:

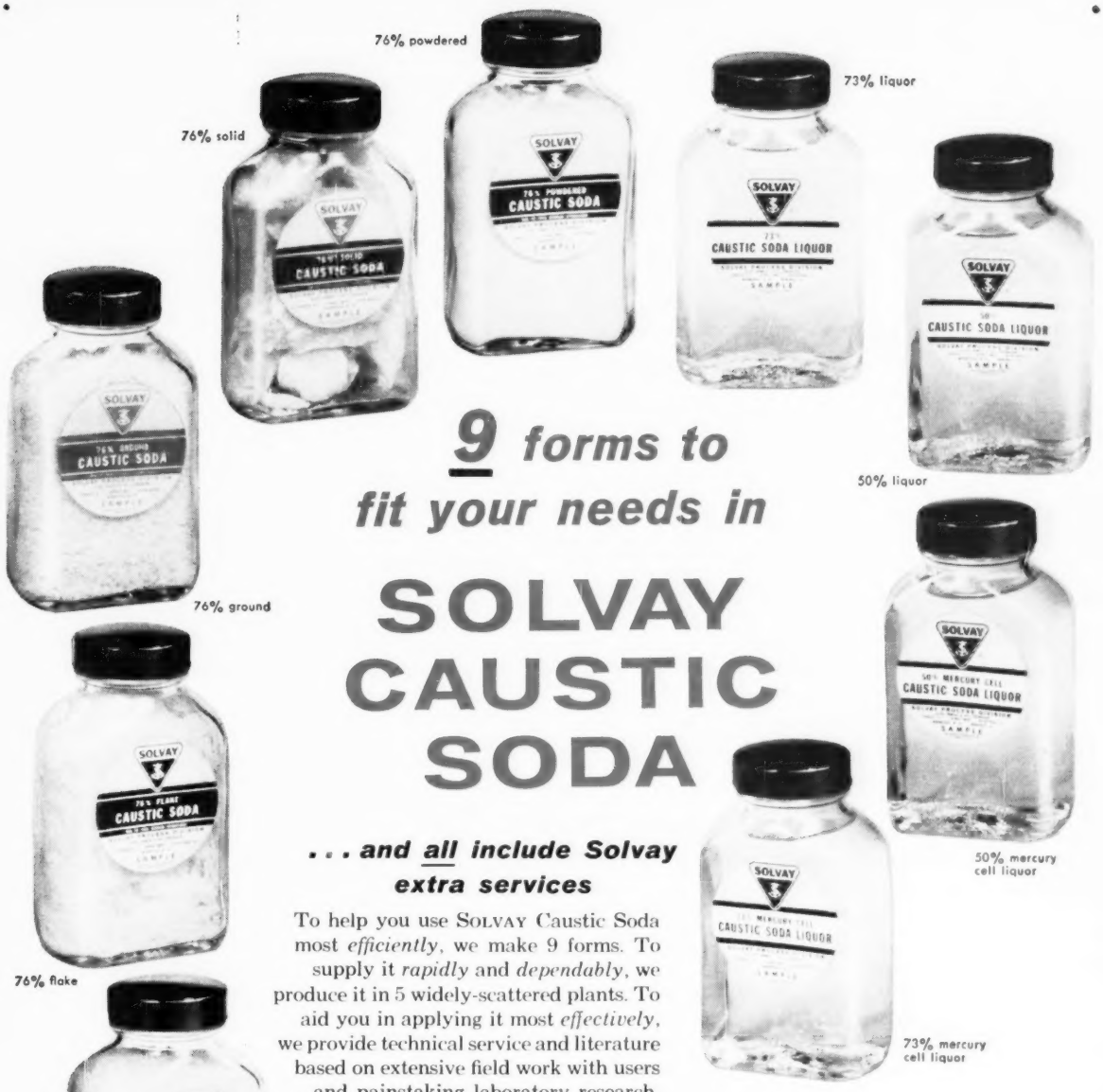
- to attain a more accurate evaluation of consumer demands;
- to achieve a greater understanding of retailers' requirements and merchandising policies; and
- to evaluate the results of advertising, particularly consumer advertising.

"Wash-and-wear" merchandising provides a prime example of an area where much more information is needed about the consumer. The technician knows with some accuracy the degree of minimum care performance which can be imparted with various finishes or by using different blends. Neither the retailer, the cutter, the mill, nor the fiber producer, however, knows with any accuracy how badly the consumer wants wash-and-wear performance in any given end product. If too high a degree of wash-and-wear performance is provided, the cost will be excessive and the merchandising effort will be unsuccessful. If too little performance is provided, the consumer will be disappointed, and an opportunity will have been lost to provide better quality and to help cutters and retailers toward the highly desirable goal of trading up.

The Outlook in Sum

The textile industry, time and again, has demonstrated its powers of production. Periodically, it has produced too much. To establish a less cyclical and more profitable industry trend, two contrasting types of activity seem to be essential. One is somewhat negative in its philosophy—to limit excesses by controlling production. The other is both more positive and more difficult—to sell more by raising the effectiveness of the industry's merchandising efforts.

Since the improved level of textile business should continue for a time, and may be extended if a higher Minimum Wage is passed, and since information about market conditions is as lacking now as it ever has been, it is unreasonable to expect that production will be kept under very strict control. It is fortunate for the industry, therefore, that in this period of generally improving textile business the fiber producers find themselves under growing pressures of excess capacity and inter-fiber competition. For it is from this level that leadership toward more effective distribution, along with the marketing knowledge needed to make it effective, is most likely to originate, and the incentive to develop such leadership will be greater in 1959 and 1960 than it ever has been in the past. ■



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BJ-2

TEXTILE NEWS

World Wide

EUROPE'S FREER CURRENCY moves will help US textile manufacturers who know how to help themselves. Holders of European currencies from 10 countries, but not those residing in each of them, are now free to exchange for dollars. Thus a German exporter who has earned sterling by selling to the UK can automatically exchange pounds for dollars and buy in the US—assuming there are no German import quotas to overcome.

If US textile manufacturers can now get prices down, they will be able to export to many countries holding currencies of the 10: the UK, France, W. Germany, Italy, Belgium, the Netherlands, Luxembourg, Denmark, Sweden and Norway.

FIRST NYLON PLANT in Australia has been opened by the British Nylon Spinners (Australia) Ltd. just outside Melbourne. The plant cost 5 million pounds sterling and is the country's only one devoted entirely to nylon. In the near future, the factory will reach its peak annual rate of 5 million pounds.

ISRAEL'S NEW RAYON plant has opened at Ashod on the Mediterranean. During the first stage of operations, the plant will be able to produce 3 million pounds of tire cord and 2 million pounds of regular yarns annually. By 1961, the plant will be expanded to produce basic chemicals now being imported largely from the US.

TEN BELGIAN KNITTING mills have united to push exports to the US. The group, called Belfak, will design and merchandise specialty goods for men's, women's and children's wear and will open a New York showroom shortly.

GERMANY'S BIG MAN-MADE fiber producer, Farbenfabriken Bayer, will concentrate its production and sales efforts on the newest synthetics, on dyestuffs and on auxiliary products for the textile industry. Competition, especially from the US, is increasing in these areas, Farben stockholders were told, and the company has decided to intensify activity to meet it.

JAPANESE RAW SILK support price was reduced by 50,000 yen to 140,000 on Jan. 16. The new price will remain in effect through the current silk season which ends on May 31. If export demand holds up, the lower price support is not expected to have any great influence on the market.

RED CHINA TEXTILE exports pose a threat to Malaya, the country's Minister for Commerce, Tan Siew Sin, recently declared. Consequently, Malaya ceased issuing import licenses for white and dyed cotton shirtings and sheetings and for white and dyed cotton jeans which come from the Chinese mainland. Singapore officials imposed similar import bans in a move to prevent re-exports to Malaya. It is felt that Malaya can meet Indian, Japanese and Hong Kong competition, however.

FIRE REPELLENT FLAX canvas has been developed by Boase Spinning Co., of Dundee, Scotland. The 100% flax cloth is impregnated with a chemical neutralizer and a coat of polyvinyl-chloride. It is designed for marine use.

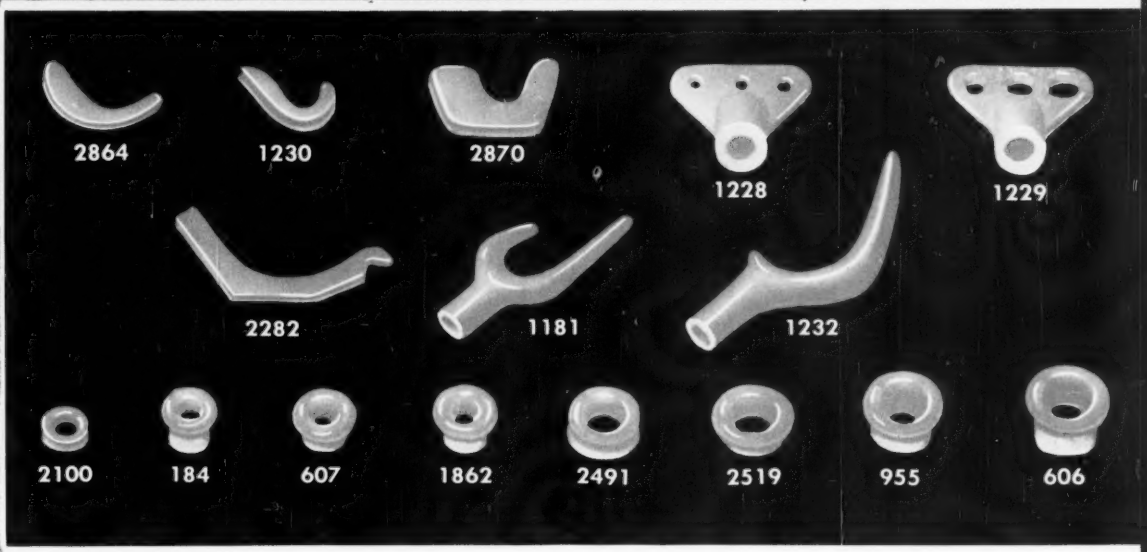
TWO EXHIBITIONS of interest to textile manufacturers have been scheduled for later this year. The European Association of Garment Industries will hold its annual meeting at Stockholm on June 15-17 and will specialize in latest men's wear. And the Third International Textile Machinery Exhibition, sponsored by the European Committee of Constructors of Textile Equipment, will be held in Milan, Italy, on Sept. 12-21.

SWEDEN'S DETERIORATING textile industry, which has caused a labor cutback of 20% in the past seven years, will be the subject of a special Government study. The Trade Minister has set up a committee of eight—five industrialists, two labor representatives and a Government chairman—to see how more capital can be injected into the industry to increase productivity. Investments ought to be doubled—from the present rate of some $12 million annually—if the postwar downtrend is to be reversed, it is felt.

THE SOVIET UNION has signed a contract with the Svenska Rayon Co. for the delivery of $2 million worth of rayon goods. This is a sharp drop from the $5 million bought by Russia in 1955.

EAST GERMAN CHEMICAL plants are planning to boost productive capacity by 60% by 1965. Synthetic fibers and plastics will be emphasized, the East German Foreign Trade Chamber announced. Among synthetics to be stressed are Prelana, a new wool-like fiber heretofore produced only in laboratory.

MACHINERY and EQUIPMENT SECTION



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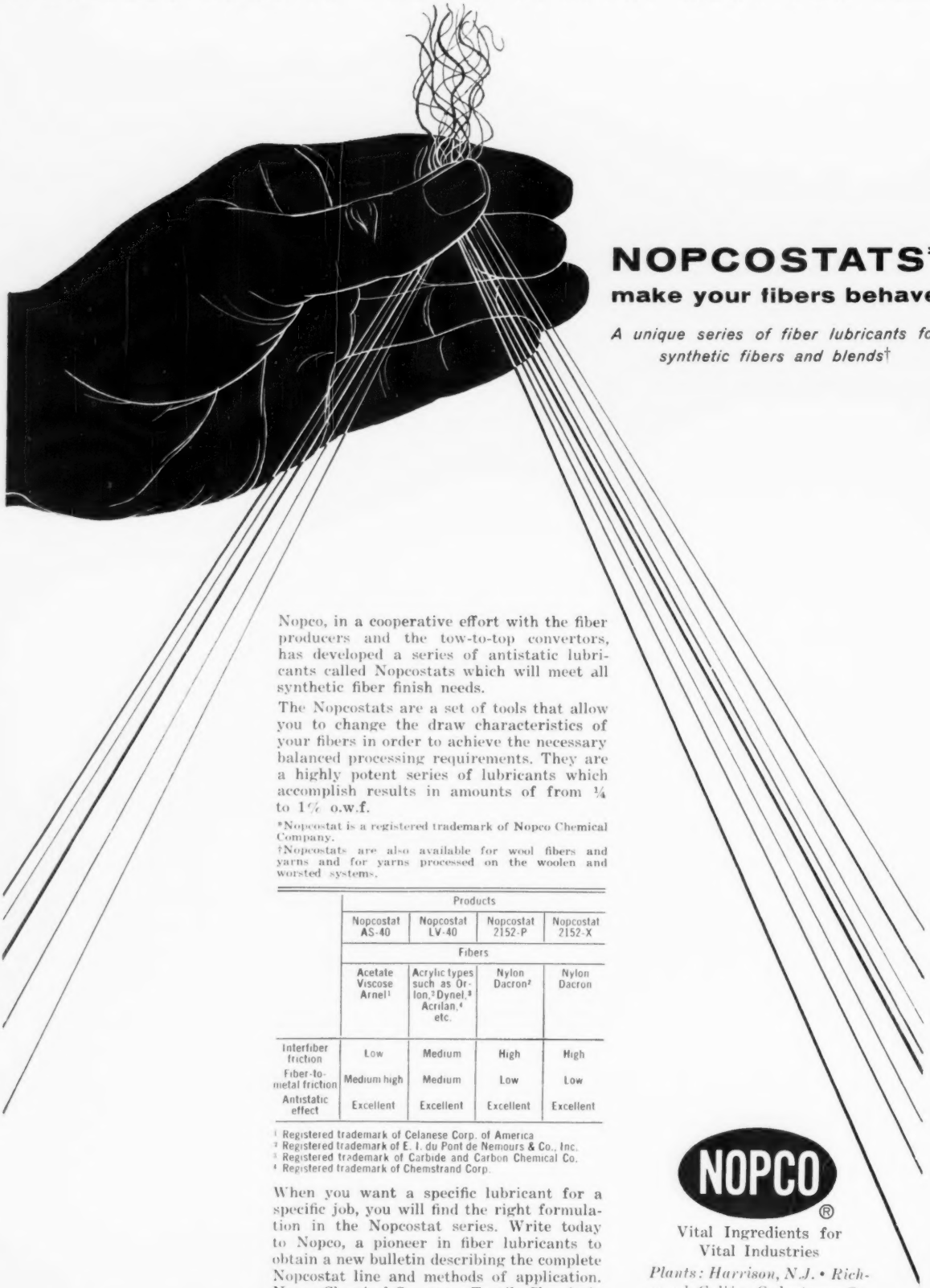

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†Nopcostats are also available for wool fibers and yarns and for yarns processed on the woolen and worsted systems.

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	Fibers			
	Acetate Viscose Arnel[1]	Acrylic types such as Orlon,[2] Dynel,[3] Acrilan,[4] etc.	Nylon Dacron[2]	Nylon Dacron
Interfiber friction	Low	Medium	High	High
Fiber-to-metal friction	Medium high	Medium	Low	Low
Antistatic effect	Excellent	Excellent	Excellent	Excellent

[1] Registered trademark of Celanese Corp. of America
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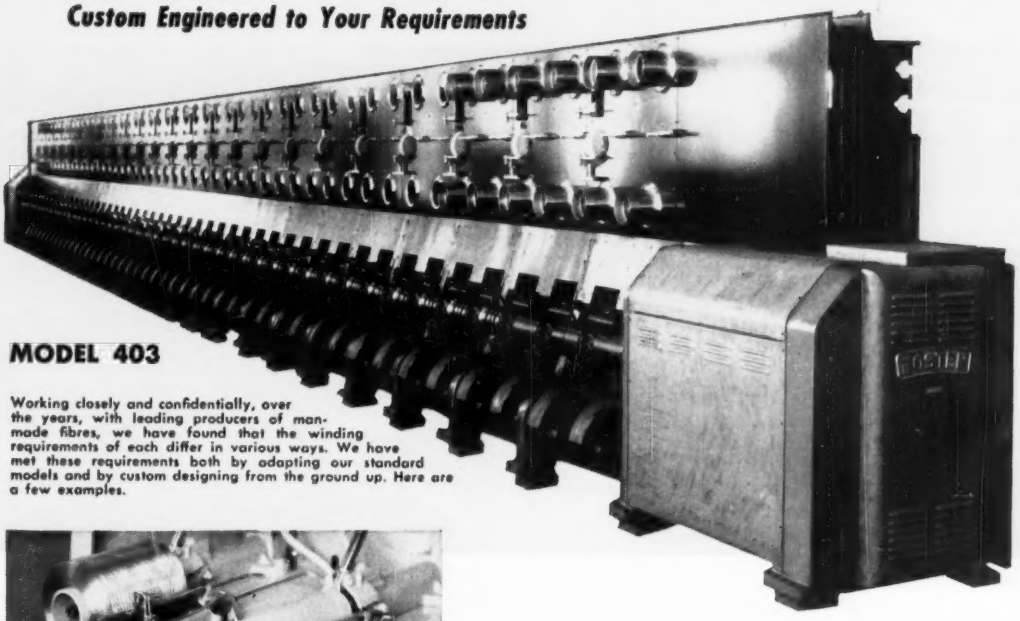
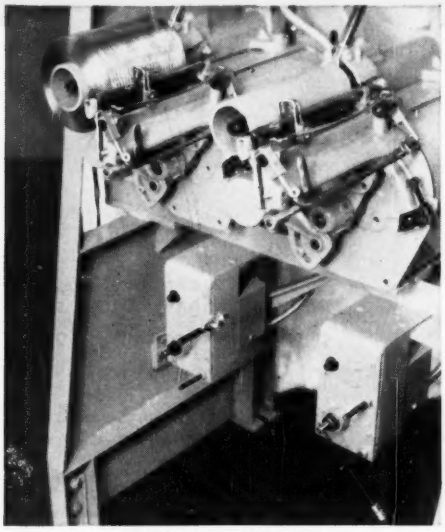
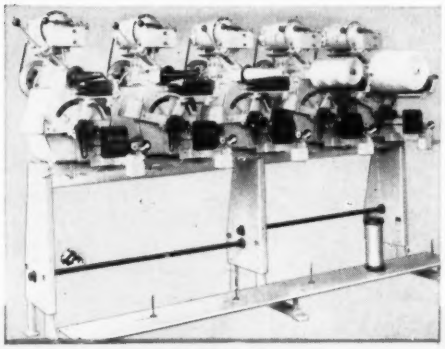


MODEL 403

Working closely and confidentially, over the years, with leading producers of man-made fibres, we have found that the winding requirements of each differ in various ways. We have met these requirements both by adapting our standard models and by custom designing from the ground up. Here are a few examples.



SECTION OF TENSIOMATIC



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MODEL 78

MODEL 403 FOR MELTSPUN YARNS

This machine was originally designed to the specifications of one producer, although the design has been modified from time to time to meet other specifications. Its major features are as follows: —

1. Ribbon breaker eliminates ribbon wind.
2. May be equipped to wind 4 packages with 1" traverse, 2 packages with 2½" traverse, or 1 package with 5¼" traverse.
3. Pressure of package on driving roll automatically adjusted as weight increases.
4. Package core (6⅛" outside dia.) held by torroidal spring chuck, actuated by a handle which also serves as a brake.
5. Guards prevent yarn from wrapping around drive roll shaft.
6. Speeds up to 6000 feet per minute.

TENSIOMATIC FOR WETSPUN OR DRYSPUN YARNS

This is a standard model but is frequently modified to meet special requirements. It winds continuously direct from the spinneret to 6" traverse packages (1 or 2 per position), or to 10" traverse packages weighing up to 30 lbs. It delivers a precise wind at speeds up to 450 feet per minute. As the package builds up and the yarn speed increases, the speed of the motor is automatically decreased by means of dancer rolls and electronic control.

MODEL 78 FOR WETSPUN OR DRYSPUN YARNS

This machine, when used for takeup winding, is equipped with a torque motor and dancer roll mechanism. It is suitable for the coarsest yarns and winds 10" traverse packages up to 16" in diameter and 30 lbs. in weight.

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New nonwoven machinery

Two units specially designed for making non-oriented webs

By the Editors

IN A LONG FORWARD STRIDE in the direction of economical production of specialized types of nonwoven fabrics, Proctor & Schwartz now has available two new units for making nonwovens with non-oriented fiber array. Such webs generally possess more equalized strength in all directions as contrasted with nonwovens having a parallel or semi-random fiber array. Non-oriented types of nonwovens are considered desirable in end uses such as garment interlinings where equal shrinkage in all directions is a necessary property to provide against puckering.

Developed after considerable research and trial under actual mill production conditions, the two new Proctor units are intended for use in new or existing nonwoven fabric ranges, according to Charles W. Schwartz, the company's sales manager for textile machinery. The new machines complement Proctor's established line of equipment for making nonwovens having parallel or semi-random fiber arrays.

The first of the new units is the Proctor Duo Form web forming machine. It is intended for production of average quality industrial nonwovens. For these fabrics, Proctor recommends a simple machinery arrangement consisting of a scale pan weighing feed and the new Duo Form web forming unit. This equipment will form non-oriented webs of cotton, wool, synthetics, jute and hair, ranging from 2 to 15 denier and staple lengths from ½" to 1½". Widths of web may be up to 84" wide with weights varying from 1 to 15 ounces per square yard.

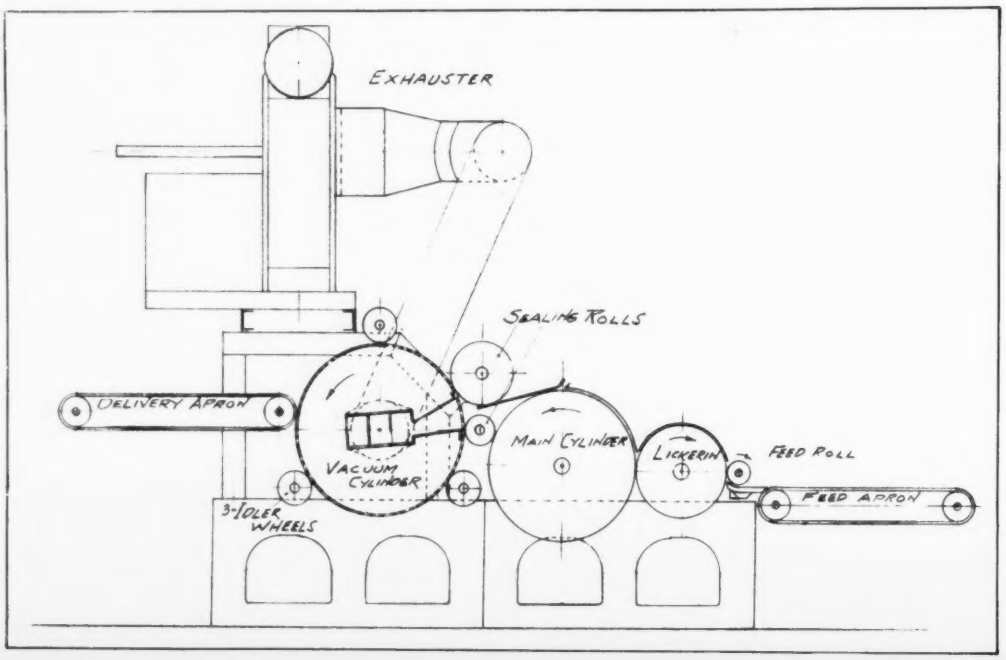
The weighing feed provides for coarse opening and metering of the fibers. The Duo Form utilizes a high speed main cylinder with workers and strippers which open the stock to single fibers by carding action and provide leveling and blending. An intermediate high speed doffer transfers the opened, leveled, and blended stock to the second main cylinder which operates at a very high speed for maximum draft and resultant fiber separation. Fibers are stripped by air and formed into a non-oriented web on a screened cylinder for delivery from an apron.

Feeds with a compensator and delivery gates are available for additional accuracy. For extreme opening, widthwise evenness and fiber to fiber blending, the Duo Form can be fed from existing batt lines (picker, willow, condenser, feed, garnett, lapper.) For new plant installations, the basic line of equipment as recommended by Proctor, consists of a weighing feed, a metallic clothed synthetic card, a broadband intermediate feed and a Duo Form, delivering to the necessary bonding unit, dryer and curer. Production capacity of the Duo Form ranges as high as 200 pounds of unbonded web per hour, depending upon fiber selection.

The second new machine, the Proctor Form, is specifically designed for production of low cost nonwoven fabrics. Around it, Charles Schwartz says, an extremely versatile manufacturing system can be built. In such a system, the basic equipment consists of a weighing feed, a breaker garnett, an intermediate feed and the new Proctor Form delivering to the subsequent finishing operations.

A high degree of versatility can be achieved, according to Schwartz, by use of certain basic items of equipment and a lapper arranged to form a T in the following layout: a weighing feed, a breaker garnett and a camelback lapper delivering to a floor apron extending both to the left and righthand side of the

HOW IT WORKS—This simplified drawing shows the essential parts of the Proctor-Form and how they do their job of creating a non-oriented web.



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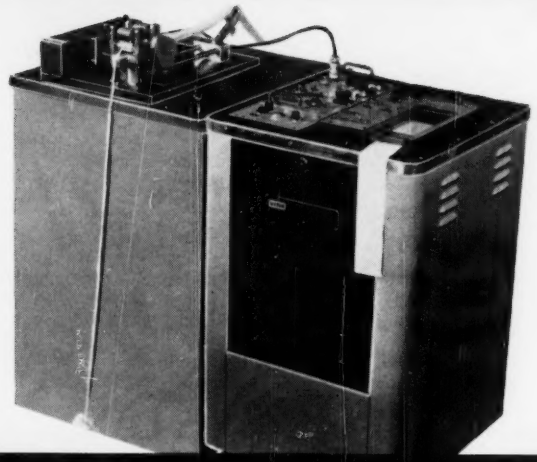


PREDICTS effect of roll spacing

PREDICTS effect of bi-directional drafting

PREDICTS effect of humidity

PREDICTS effect of draft

Provides fast and efficient cohesion test for maximum fiber control and proper blending in processing. Eliminates numerous tests for fiber length, fiber fineness, surface characteristics, wax content, etc. Compensates for variations in raw material to achieve optimum twists for roving. Determines drafting properties of synthetic, natural and blended staples. 1⅛" minimum, 8" maximum roll setting.

THE USTER SPECTROGRAPH PROVES!

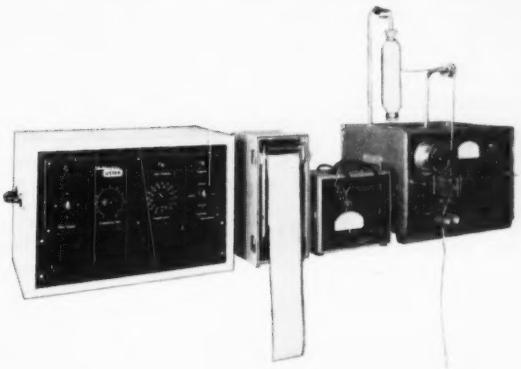
PROVES production machinery settings

PROVES mechanical condition of machines

PROVES short, medium, long term variations

PROVES final fabric appearance in 4 to 6 minutes

The Uster Spectrograph introduces an entirely new concept of fiber control during processing. The Spectrograph describes mechanical troubles and machinery setting faults in the drafting zone. Simultaneously with the operation of the Evenness Tester, the Spectrograph automatically analyzes short, medium and long term variations. The result is stored on numerous channels with the Spectrogram chart delivered in 4 to 6 minutes.



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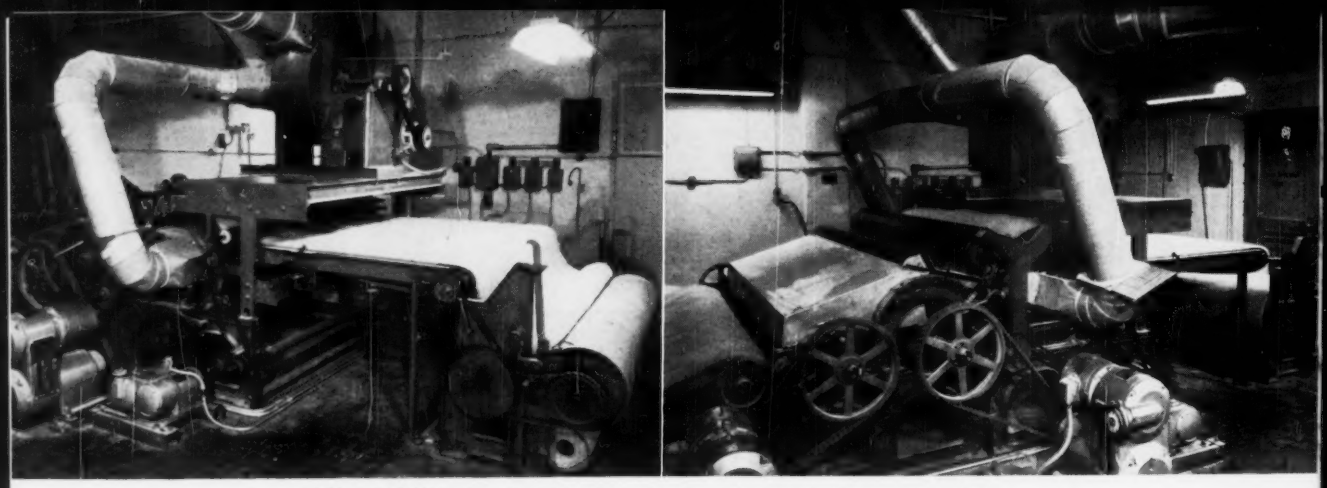


HOW IT LOOKS—Two views of the Proctor-Form machine for forming non-oriented webs.

lapper. This floor apron can then deliver either to a standard batt head or finishing equipment for making a semi-random nonwoven fabric. Or it can feed in the opposite direction to a Proctor-Form for making a non-oriented nonwoven fabric. By still another arrangement, the traverse apron of the lapper can be locked in place and the web can then be delivered directly from the doffer of the garnett. This latter arrangement is extremely common practice in making nonwovens where extreme loft is desired.

The feed, garnett and lapper provide the necessary opening and lateral and longitudinal evenness for the Proctor-Form to produce an even web. The new machine converts the oriented web from the lapper into a non-oriented web or batt by means of a lickerin feed roll to open the stock. The high speed main cylinder carries the stock to an air transfer point and a screen cylinder against which the stock is formed.

This set-up has been found most satisfactory on short loose stocks, or slippery fibers such as cotton, short uncrimped synthetics, and short wools. With this set-up, it has been found that capacity ranges up to 200 lbs. per hour, depending upon fiber and quality. Both the Duo Form and the Proctor-Form have been designed to operate 8, 16, or 24 hours per day for continuous, uninterrupted production. Wilth crimped stock or stock with cohesive properties, capacity will be reduced, depending on quality desired.

Both new machines have been placed on sale by Proctor in addition to the single and duplex garnett-cards for producing oriented webs which the company has long manufactured. Their availability rounds out the broad line of equipment for range type installations which Proctor has supplied to leading producers of nonwovens.

Traveler Cleaner

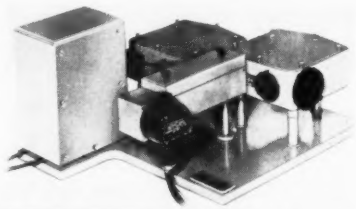
Standard Textile Machine Works has developed a traveler cleaner said to meet the demands of today's larger packages and higher traveler speeds. The cleaner is said to give the following results: 8 to 12% decrease in breakage; 25% saving in the wear of the traveler; 5 to 8% speed-up on doffing of frames; savings on the ring and of waste, and more uniform yarn. The cleaner is made of stainless steel. *For further information write the editors.*

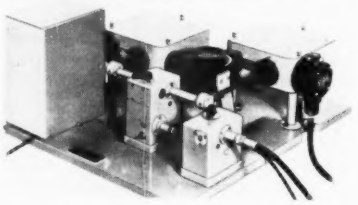
Automatic Blender

Fiber Controls Corp. is now offering an automatic blender, which will blend any combination of fibers automatically. Features of the blender include: light weight increments down to one ounce are possible; positive locking "close" position; adjustable operation of pan doors to condition of fiber stock; speed variability throughout the entire operation; idler "take-up" to prevent belt slippage; maximum accessibility to spike apron, and ease of maintenance. The company also manufactures the synchromatic feeder, which features a super-sensitive weighing pan and an air cylinder dumping mechanism. *For further information write the editors.*

New Spectrofluorometers

Farrand Optical Co. Inc., has announced that in addition to its standard spectrofluorometer two new types of the instrument are now available. One is a dual-purpose machine for spectrofluorometric transmission measurements in the spectral region from 220 to 650 mu. The second is a triple-purpose instrument which can be utilized as a spectrofluorometer, spectrophotometer or for reflectance measurements of solid samples such as textiles, plastics, paints, paper, powders, etc. Farrand spectrofluorometers can be supplied for manual operation, for automatic operation with recorders or for oscilloscope presentation. *For further information write the editors.*





Top: Dual-purpose instrument.
Bottom: Triple-purpose unit.

This battery of Kidde-Johnson Slashers is in operation at a leading southern mill.

Versatile Kidde-Johnson Warp Sizer HANDLES ALL YARNS

The all-purpose, high speed Kidde-Johnson Slasher is versatile because . . .

. . . it will slash yarns of any fiber – filaments or spuns – from the finest count for delicate fabrics to the heaviest denier tire cord.

. . . its production capacity can be expanded to meet future needs . . . drying cylinders, single or combination quetsches can be added, head ends extended and/or widened.

. . . it is constructed to fit your requirements . . . for silk system slashing (single beam to loom beam), cotton system (from several section beams to loom beam) or both.

Here are some other outstanding features . . .

1. A smooth all electric drive in single or multi-motor arrangement.

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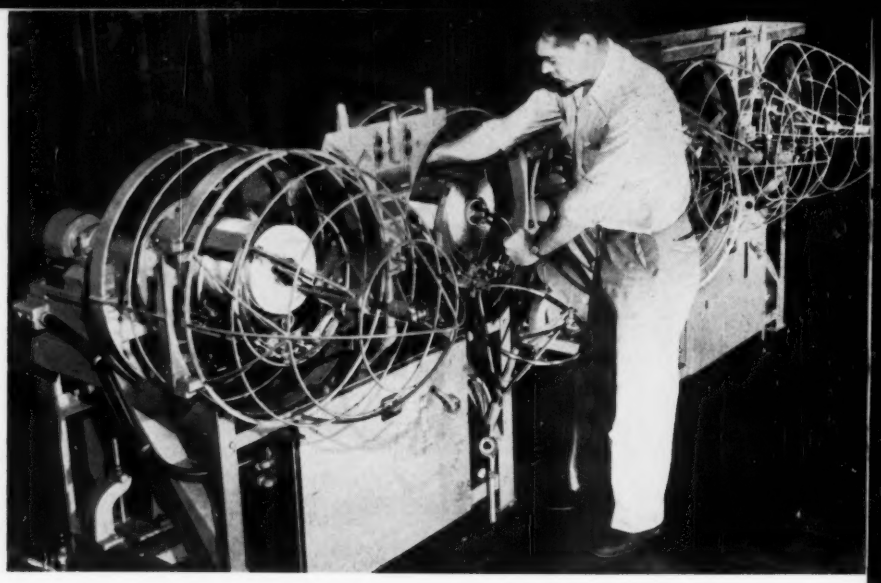

FASTER ROPE PRODUCTION: To speed output of man-made fiber rope, New Bedford uses Warner & Swasey Twister Winders such as the two shown here. These machines operate at 150 yards per minute to produce knotless packages weighing up to 21 pounds.

New machines, methods for man-made fiber ropes

By the Editors

NEW BEDFORD CORDAGE CO., New Bedford, Mass., a long-established rope maker now heavily engaged in making ropes from man-made fibers and yarns, has sharply increased production and reduced manufacturing costs by turning to new machinery and new manufacturing methods. Along with its output of manila ropes, New Bedford has found it profitable to turn to ropes made from nylon including Allied Chemical's Caprolan, from Du Pont Dacron polyester fiber and from polyethylene yarns.

Even though the man-made fibers are more expensive, president Martin Walter, Jr. says their light weight and durability alone easily outweigh the additional cost. He points out, for instance, that nylon rope, size for size, has about twice the strength of naural manila fiber. Thus a nylon rope need be only half the diameter of a manila line to handle the same job. Nylon rope is also resistant to rot, and lasts about three to five times longer than manila in maritime and most other applications. Polyethylene line is about 30% lighter than nylon and resists attack by virtually all chemicals and has the additional advantage of floating on water.

To make man-made fiber rope, New Bedford has found it necessary to modify old rope-making techniques and devise new ones. Along with these technical changes, the company has installed much new equipment. A key feature of the new machinery layout for man-made fibers, Walter reports, is a battery of Warner & Swasey Whirlwind Twister Winders. Walter characterizes the new machines as one of the most radical advances in rope making in the past 25 years.

The new machines simultaneously spin and wind synthetic cord and rope fibers into yarn at three times the rate of conventional equipment. In addition, they produce a superior product, according to Walter.

Yarn packages turned out by the Twister-Winders weigh approximately 21 lbs. This is a 250% increase in size over that obtained from previous methods. Because the large packages also are knot-free, the quality and strength of the finished rope is vastly improved. It is also possible, for the first time, to produce a round polyethylene yarn, rather than the usual egg shape.

The Whirlwinds operate at a speed of 150 yards a minute, with only one operator required for each two machines—a 50% labor saving. Walter estimates that the Whirlwinds will pay for themselves in 3½ years.

New Bedford rope ranges in size from 3/16″ to 3-¼″ diameter; twine from 1/16″ to 5/32″ diameter. A typical nylon rope consists of 25 bobbins of 840 denier fiber combined into one yarn by the Whirlwind. It takes a predetermined number of yarn packages to make one strand; three strands to make one rope.

Yarn processed in one operation on the Twister-Winders goes immediately to modified former and layer rope-making machines, and is then coiled or reeled, followed by inspection of the finished rope, packaging and shipping. All ropes up to 1″ diameter are packaged unless otherwise specified. The entire production cycle is an efficient, straight-line system. The twist of both yarn and finished rope is carefully preset during manufacture to prevent any tendency toward kinking or unraveling.

New Bedford Cordage was established in 1846 to make rope for New Bedford's famous whaling ships. Today, more than a century later, it still occupies its first site. Although New Bedford still makes rope and cordage for maritime use, it also supplies rope for industrial, agricultural, oil field, hardware, sporting goods and for naval and military applications. One of its current products serves as an example of the firm's diversity of rope output. It is a special small diameter cord for use in the manufacture of life-saving incubators for premature infants.

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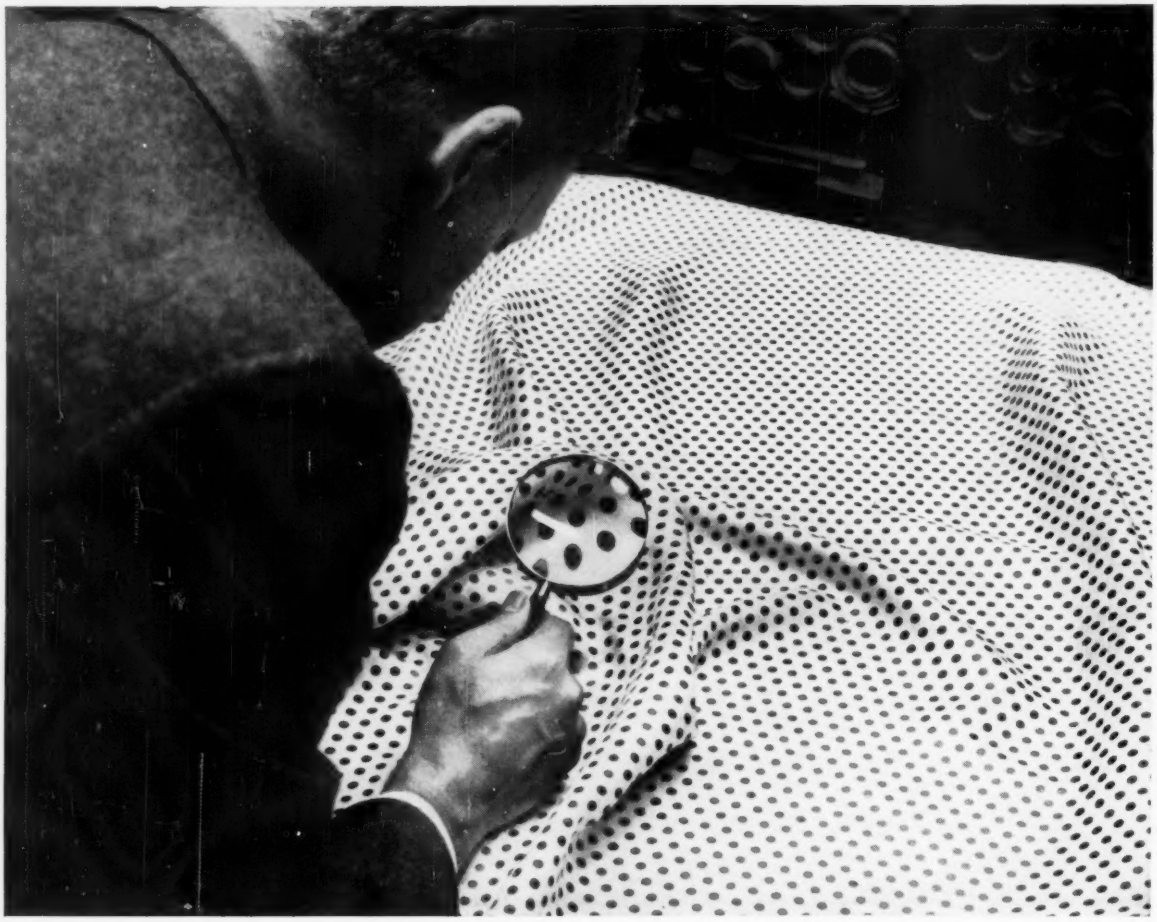

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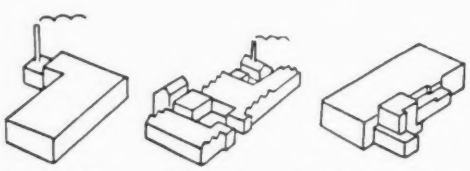

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PAPERS OF THE
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A A T T

Properties of Eastman's KODEL POLYESTER FIBER

By E. V. Martin

A NEW POLYESTER FIBER has been developed in the research laboratories of Tennessee Eastman Co. This fiber is being marketed as Kodel, a registered trademark of Eastman Kodak Co. Kodel was announced to the public by Eastman Chemical Products, Inc., on September 10, 1958. The fiber was presented to the textile trade as one which significantly extends the range of fabrics and apparel that can be classed as the "wash-and-wear" or "ease-of-care" type. Garments made from proper blends of Kodel fibers with other fibers also have a pleasing, comfortable hand and, to a notable degree, possess the ability to stay fresh and neat in appearance while in use.

Since Kodel is being offered at present only in staple form, this series of papers will be limited to the properties of Kodel staple fibers, the processing of the fibers into yarns and fabrics, and the dyeing, finishing, and properties of fabrics containing Kodel fibers.

Physical Properties

An X-ray diffraction pattern of Kodel fibers is shown in Fig. 1. This pattern indicates that the fiber is moderately crystalline and fairly well oriented. Tensile properties were measured on single filaments, using an Instron tensile tester at the rate of 100%/min. A typical stress-strain curve is shown in Fig. 2. A summary of tensile properties and a few general properties is given in Table I.

Under standard conditions of 70°F. and 65% relative humidity, strength of Kodel fibers is in the range of 2.5 to 3.0 g./den., elongation varies from 24 to 30%, and the initial modulus of elasticity is from 25 to 35 g./den. Work required to break a fiber is about 0.5 g.-cm./den./cm. Resilience, as measured by work recovery, is high, being about 85 to 95% for a 2% extension, 50 to 60% for a 5% extension, and from 30 to 40% for a 10% extension. In making these resilience measurements, the rate of extension was 10%/min., and no delay was allowed between the extension and retraction portions of the cycle.

Insensitivity of Kodel to water is shown by its low moisture regain of 0.2% and by the fact that its stress-strain properties in water at 70°F. are nearly the same as those in air at 70°F. Tenacity and elongation are practically unaffected by water, while the values of modulus and work recovery are only slightly reduced. At 160°F., tenacity and elongation are practically the same in water as in air, while the modulus is reduced some by water. Resilience in water at 160°F. is only a little less than in water at 70°F. The excellent performance of Kodel in "wash-and-wear" garments is probably attributable to this relative insensitivity to water.

The specific gravity of Kodel fibers is about 1.22, which places it among the relatively light fibers and gives it good covering power in fabrics. Birefringence of the fibers is about 0.098. The cross section of the fibers is round, as shown by the photomicrograph in Fig. 3.

Thermal Properties

Kodel fibers melt at 290-295°C. (554-563°F.), and break under a load of 0.05 g./den. at about 260-265°C. (500-509°F.). The fibers shrink only about 1% in boiling water, and about 3% in air at 220°C. (428°F.). Fabrics can be ironed safely at about 210°C. (410°F.). Fabrics discolor slightly after about 10 min. exposure to air at 210°C. (410°F.). Yarns discolor some and lose

Papers presented on November 13, 1958, before the Appalachian Section and on December 3, 1958, before the New York Section of the American Association for Textile Technology.

Dr. Martin received his Ph.D. degree in 1932 from the University of California. He was on the research staff of the Carnegie Institution of Washington for 10 years. Since 1943 he has been with Tennessee Eastman Co. in its research laboratories, where he is at present research associate in charge of spinning and testing fiber-forming polymers.

E. V. Martin

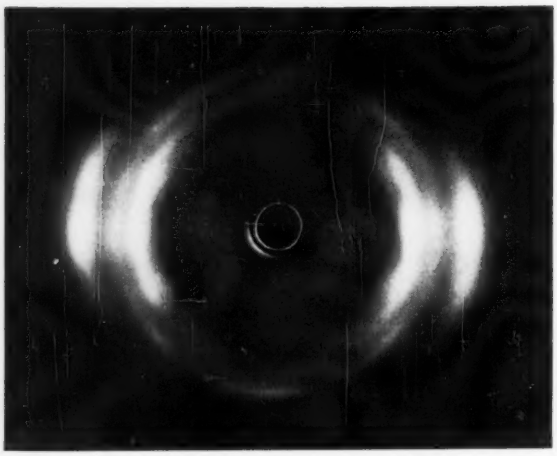

Fig. 1—X-ray Diffraction Pattern of Kodel Staple Fibers.

half their original strength in 1000 hr. in air at 160°C. (320°F.). Yarn and fabrics of Kodel fibers burn slowly but melt and drop off when hanging free.

Weathering

Kodel is better in resistance to outdoor exposure than wool and nylon, about equal to cotton, and slightly inferior to acetate.

Chemical Resistance

Resistance of the fiber to the acids and alkalies is excellent. After being soaked for 1000 hr. in a 10% aqueous solutio. of sulfuric acid at 50°C. (122°F.), Kodel yarn had lost none of its strength. After 1000 hr. in a 10% aqueous solution of hydrochloric acid at 50°C. (122°F.), it had lost 25% of its strength. After soaking for 1000 hr. in a 10% aqueous solution of sodium hydroxide at 50°C. (122°F.), it had lost about 40% of its strength and about 28% in denier. No loss in denier occurred in the acids.

Table I
Physical Properties of Kodel Fibers

	In Air		In Water	
	70°F.	160°F.	70°F.	160°F.
Tenacity, g./den.	2.5-3.0	1.8-2.5	2.5-3.0	1.8-2.5
Elongation, %	24-30	24-30	24-30	24-30
Initial modulus, g./den.	25-35	22-32	22-32	20-30
Average stiffness, g./den.	11	—		
Average toughness index, g-cm./den./cm.	0.4	—		
Toughness (work to break), g.-cm./den./cm.	0.5	—		
Resiliency (work recovery), %				
2% Extension	85-95	—	80-90	70-80
5% Extension	50-60	—	45-55	40-50
10% Extension	30-40	—	28-38	25-35
Specific gravity	1.22			
Moisture regain (70°F., 65% r.h.), %	0.2			
n_D^{21}, perpendicular	1.534			
n_D^{21}, parallel	1.632			
Birefringence	0.098			
Cross section	Round			

Samples of continuous-filament Kodel yarn and fabrics of spun staple were soaked for 24 hr. in various solutions and solvents. The properties of the continuous-filament yarn and the staple fibers were identical. The only difference was that the filament yarn had not been crimped and cut. The yarns were soaked, rinsed if necessary, and dried before testing. Results of these tests are shown in Table II. It is clear that Kodel has good resistance to the acids and alkalies used in these tests. Phenol, acetone, ethyl acetate, and toluene have a slight shrinking action on the yarn and some stiffening of the fabric.

Table II
Effects of Various Agents on Kodel Yarn and Fabrics[a]

Agent	Concn., %	Temp., °F.	% of Original Value Retained		Change in Fabric Condition
			Tenacity	Elongation	
Sulfuric acid	70	122	59	67	Slight discoloration
Hydrochloric acid	38	122	78	87	None apparent
Hydrofluoric acid	50	77	100	103	Little change; increase in luster
Nitric acid	40	122	78	96	Yellowed
Aqua regia	25	"	98	102	None apparent
Chromic acid	25	"	96	105	Slight discoloration
Phosphoric acid	85	"	100	100	None apparent
Acetic acid	75	"	97	105	" "
Phenol	5	"	95	111	Slight discoloration and shrinkage
Formic acid	98	"	97	109	None apparent
Sodium hydroxide	50	"	82	97	Slight stiffening
Ammonium hydroxide	28	77	94	102	None apparent
Acetone	100	77	102	112	Very slight shrinkage and stiffening
Ethyl acetate	100	122	95	108	" " " " "
Methylene chloride	100	77	91	139	10% shrinkage; stiffened
Trichloroethylene	100	"	97	117	About 5% shrinkage; slight stiffening
Perchloroethylene	100	"	101	108	Very slight shrinkage
Stoddard solvent	100	"	100	108	None apparent
Toluene	100	122	102	104	Very slight shrinkage
Carbon tetrachloride	100	77	103	105	None apparent
Sodium hypochlorite (Commercial Clorox)	5.25	122	102	108	Slightly bleached

[a] Soaked for 24 hr. at the temperatures indicated.

Sodium hypochlorite has a slight bleaching action. Stoddard solvent and carbon tetrachloride have no apparent effect. Perchloroethylene induces very slight shrinkage in fabrics but has no permanent effect on yarn properties. Strength and elongation are both reduced about 20% while the yarn is wet with perchloroethylene, but they both return to the original values when the yarn is dried. Trichloroethylene and methylene chloride, particularly the latter, produce appreciable shrinkage in fabrics and have a permanent effect on yarn properties. Use of these two solvents on fabrics containing Kodel fibers must be avoided. A mixture of 60 parts by weight of phenol and 40 parts of tetrachloroethane at 100°C. (212°F.) is a solvent for Kodel.

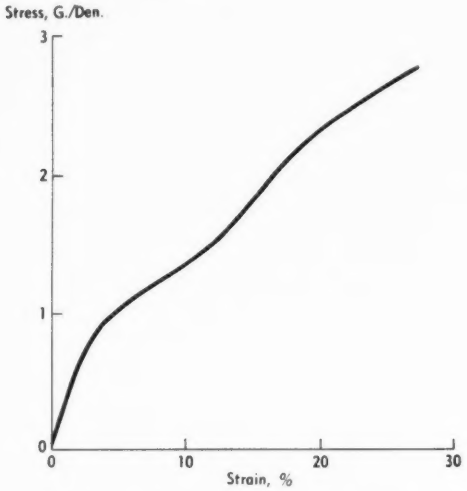

Fig. 2—Stress-Strain Curve of Kodel Staple Fiber.

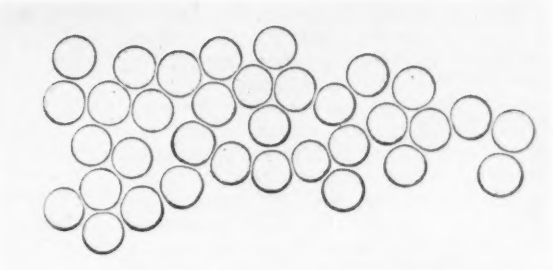

Fig. 3—Photomicrograph of Cross Sections of Kodel Fibers. (40X)

Summary

Kodel polyester fiber is moderately strong, moderately soft, high-melting, highly resilient, and relatively insensitive to water.

These properties should permit this fiber to find an important place in the field of "wash-and-wear" and "ease-of-care" apparel fabrics.

HOW TO PROCESS KODEL

By R. C. Forrester, Jr.

DURING the past several years Kodel staple fiber has been processed successfully on the cotton, worsted, woolen, and American systems, using conventional equipment without major changes in processing or mechanical conditions. Kodel fibers alone and blends of Kodel fibers with cotton, wool, and other synthetic fibers have been spun into yarns having good strength, uniformity, and character. The work carried out by the Textile Development Laboratory of Tennessee Eastman Company has been done primarily on the cotton system of processing.

Opening and Blending

Kodel fiber is received in a clean and relatively opened condition and therefore does not require severe preliminary opening. By feeding the stock directly from the bale to the feed hopper, good openness is attained through the performance of the mechanical feeding mechanism. The strength and elongation of Kodel make it compatible with most natural and man-made fibers. Blending should be done at the earliest possible stage of processing, and any of the common methods of blending can be used.

In blending Kodel and viscose fibers, the blend is made before picking. If the blend contains from 40 to 60% viscose, it is necessary to add a small amount of an antistatic agent to prevent difficulties during carding. Application of an antistatic agent in 0.75% concentration, based on the weight of the stock, before picking is usually sufficient. Static is caused by a migration of lubricant from the Kodel to the viscose and is encountered only with viscose-fiber blends. Blends with other man-made fibers, such as Verel, Orlon, and Acrilan, have not presented this static problem.

R. C. Forrester, Jr.

Mr. Forrester received his B.S. degree in textile engineering from Clemson College in 1940. He joined Tennessee Eastman Co. after graduation and is now senior textile engineer in the fiber development division. He is a member of the American Association for Textile Technology.

Blends of Kodel and cotton fibers should be made at breaker drawing. This blend is made at this stage of processing for two reasons: first, cotton requires a great deal of cleaning and opening, whereas Kodel does not; and second, Kodel and cotton are not alike in physical properties, especially crimp and elongation. Since the card settings for optimum sliver quality are affected by these properties, they are picked and carded separately. It is recommended that the Kodel sliver be carried through one drawing process before blending when the Kodel fiber is to be blended with combed cotton and spun into fine counts such as 40/1 to 70/1 c.c. This operation aligns all the fibers and reduces the tension variations common to most drawing blends.

The denier of the Kodel fiber and the staple length of the cotton should be based on the size of the yarn to be spun, as follows:

Yarn Count	Kodel Den./Fil.	Staple Length and Type of Cotton
Up to 30/1	3	1 1/8" combed
30/1 to 40/1	1.5	1 1/8" combed
40/1 and up	1.5	1 7/16" or 1 9/16" combed Pima or Egyptian

Blends of Kodel and wool have been made, using both uncut- and cut-wool top. The cut top is stock blended, and the uncut top is blended at the pin drafter. The stock blend is processed on the cotton system and the pin drafter blend is processed on the American system. The cut-wool top should be thoroughly opened before blending with the Kodel fibers to prevent small locks of the wool from going through the picker and card without being separated.

Picking

Kodel fiber can be satisfactorily processed on standard cotton system picking equipment. Since Kodel needs no cleaning, slower beater speeds and a more open beater to feed roll settings are recommended. The following conditions are typical for picking Kodel:

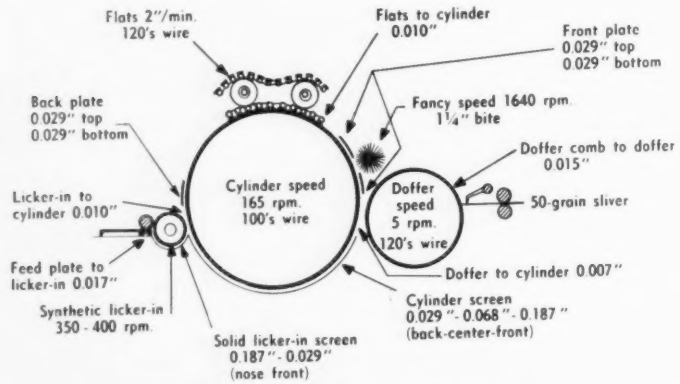

Fig. 1—Card Setting for 1½-Den., 1½" Kodel Fiber.

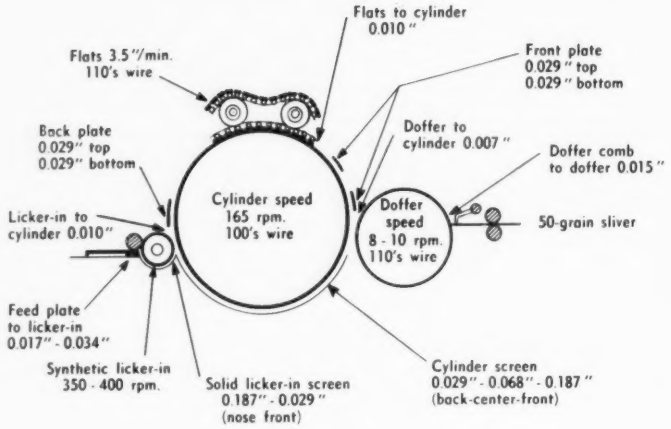

Fig. 2—Card Setting for 3-Den., 1½" Kodel Fiber.

Saco-Lowell rayon picker	Model 6 R-5
Rayon carding beater	16" diameter
Kirschner beater speeds	650 to 850 rpm.
Fan speed	1500 to 1600 rpm.
Setting of beater to feed roll	⅜"
Lap pin pressure	20 to 30 psi. (pneumatic rack control)
Lap weight	14 oz./sq. yd.
Lap length	30 yd.

Careful attention to the following points is helpful in minimizing lap splitting in carding:

(1) Air currents in the cage section should be adjusted so that the bulk of the stock is deposited on the top screen.

(2) A split-lap preventer should be used behind the calender rolls.

(3) Increased pressure on the calender rolls and reduced pressure on the lap pin also improves the quality of the picker-lap.

Carding

Carding of Kodel is similar to carding of other synthetic fibers, and good results may be obtained on flat or roller cards. A fancy roll is not required on 3-den. or coarser staple and should not be used since the roll may cause excessive neps. Fine-denier Kodel, such as 1½ den./fil., usually requires a fancy roll when carded in 100% form. The conditions which may be used to card Kodel successfully on a flat card are given in Figs. 1 and 2.

Drawing

Kodel fiber may be processed on any of the conventional drawing frames with good results. However, it should be pointed out that Kodel, like other bulky synthetic fibers, tends to choke the coiler tube gear. This is especially true of 1½ den./fil. staple; and in order to allow for this bulkiness of the sliver, a 1¼" or 1½" tube gear should be used. The Positube-type coiler eliminates tube choking; however, this type of coiler is not generally used throughout the trade.

There is on the market a small brass adapter which, when inserted between the nip of the calender rolls and the top of the tube gear, also overcomes tube gear choking. Two drawing processes are recommended for blends which have been made before picking or for 100% Kodel. The number of processes for drawing-frame blends is determined by the amount of blending required. Three processes are usually employed. The following settings are typical for drawing 3-den./fil., 2½" Kodel on a Saco-Lowell DS-1 drawing frame:

Ends up	6
Draft	6
Sliver weight	50 grains/yard
Roll settings	1st to 3rd 3/16" over staple length 3rd to 4th ⅜" over staple length
Production rate	12 to 14 lb./hr./delivery

Tension should be watched closely to insure that the sliver is not drafted between the front roll and the trumpet.

Roving

Kodel fiber in 100% form or in blends with other fibers may be processed on long or short draft roving equipment equipped with any of the various types of drafting elements. One-process roving is satisfactory for yarn counts up to 40/1; however, two-process roving is usually used on counts finer than 40/1. Minimum twist should be used in the roving to get the best yarn uniformity. The twist multipliers shown in Table I should serve as a guide or starting point for producing satisfactory roving. Other conditions typical for processing Kodel in roving are as follows:

Table I
Roving Twist Multipliers

Fiber Blend	Den./Fil.	Hank Roving	Twist Multipliers
100% Kodel	1½ & 3	Up to 4	.70-.75
100% Kodel	1½ & 3	4 or higher	.80-.90
65% Kodel 35% cotton[a]	1½	2 to 5	.80
50% Kodel 50% cotton[a]	1½	2 to 5	.88
25% Kodel 75% cotton[a]	1½	2 to 5	.93
65% Kodel 35% cotton[a]	1½	Above 5	1.00
50% Kodel 50% cotton[b]	3	2	.98
55% Kodel 45% viscose	3	2.0 to 3.5	.70-.75
60% Kodel 40% viscose	3	2.0 to 3.5	.70-.75
70% Kodel 30% viscose	3	2.0 to 3.5	.70-.75
60% Kodel 40% viscose	1½	3 to 4	.70-.75
70% Kodel 30% viscose	1½	3 to 4	.70-.75
70% Kodel 30% wool	3	2	.76

[a] 1 7/16" combed Pima cotton.
[b] 1 1/8" combed Peeler cotton.

Roll settings	1st to 2nd roll ⅜" over staple length 2nd to 3rd roll ⅛" over staple length
Front roll speed	140-150 rpm.
Spindle speed	800-900 rpm.

Spinning and Yarn Properties

Spinning frames normally used to process cotton or synthetic fibers give satisfactory results. Roll settings should be carefully checked to avoid fiber stretching, and double-creeled roving is recommended to improve yarn uniformity.

Good yarns of Kodel staple fiber have been produced on the Saco-Lowell SZ-5 spinning frame under the following conditions:

Counts	20/1-80/1
Twist multiplier	2.50 to 4.00
Spindle speed	5,000 to 7,000
Ring size	2½"
Ends up	2

The practicability of spinning Kodel yarn using knitting or lower twists has been studied. These tests indicated that, in the medium counts with 3-den./fil., 2½" staple, it is practicable to spin with a twist multiplier of 2.50. On coarse counts with this staple it may be possible to use a multiplier as low as 2.00. With 3-den./fil., 1½" staple, counts up to 30/1 may be spun with a twist multiplier of 2.50 with very few ends down in spinning. The following is a portion of the data collected from these tests.

3-Den./Fil., 2½" Kodel Fiber

T.M. Factor	Skein Break, Lb.	Elongation, %
20/1 Yarn Count		
2.00 2561	128.0	18.1
2.25 2669	133.4	20.0
2.50 2818	140.9	19.2
3.00 2698	134.9	17.6
3.25 2592	129.6	18.4
4.00 2429	121.4	18.9
34/1 Yarn Count		
2.00 2380	70.0	18.5*
2.50 2423	71.3	16.3
2.75 2409	70.8	16.7
3.00 2342	68.9	16.7

* Ends down excessive.

The work to date on Kodel staple fiber indicates that the highest practical counts which can be spun from various deniers and lengths are as follows:

Den./Fil.	Length	Maximum Practical Count	Fibers per Cross Section
1½	1½"	60/1	59
3	1½"	28/1	63
3	2"	35/1	50
3	2½"	40/1	44
4½	2"	22/1	54
4½	2½"	28/1	43

These spin limits are based on the generally accepted rule that the ends down in spinning per 1000 spindle hours should not exceed the count being spun. Generally, the maximum spinnable yarn number from any given denier should be reduced about 20-25% for use as a singles warp yarn. The maximum spinnable yarn number for each denier may be used as filling or as a two-ply warp yarn. The physical properties of the 100% Kodel yarns spun from the staple fibers are shown in Table II.

In Fig. 3 the effect of yarn count on break factor is given for the various deniers and lengths of Kodel spun staple yarns.

In Fig. 4 the break factor is plotted against percent Kodel in blends with other fibers. These curves show that as the Kodel content in blends with cotton increases, the yarn strength decreases rather rapidly up to 50%, then becomes almost constant from that point on to 100% Kodel. As the Kodel content in blends with viscose increases up to 50%, the yarn strength

decreases slightly (about 16%); then, as the Kodel content increases further, the yarn strength increases. Stronger yarns are obtained by using modified viscose-type fibers having stress-strain curves that more nearly match the stress-strain curve of Kodel. In blends with wool, the yarn strength increases as the percentage of Kodel increases.

Preparation of Warp

Kodel staple spun yarns process like other synthetic spun yarns in the warping operation, and conventional-type creels and warping equipment employed in the weaving industry are satisfactory. Although the cotton system of beaming is preferred, the silk system may be used. When the silk system of warping is employed and the warp is to be slashed, it is necessary to effect an end-and-end separation at the front of the slasher. This can be accomplished by the use of split rods and a swing or zig-zag comb. Tension applied to the yarn during warping or beaming should not exceed 0.1 g./den., and warping speeds of 200-300 yd./min. may be employed. Relative humidities of 55 to 65% for the warping area have given good results, and with controlled relative humidity, static should not be a problem with Kodel.

At times it may be necessary to set the twist in spun staple Kodel yarns prior to warping or quilling when kinkiness is encountered in either the singles or plied yarns. Twist setting may be carried out under the following conditions:

Dry bulb temperature	180°F.
Wet bulb temperature	170°F.
Time	Approximately 1½ hours (depending on package size)

(Continued on Page 51)

Table II
Physical Properties of Kodel Spun Yarns

Den./Fil.	Length	Count	G./Den.	Elongation, %	Skein Break, Lb.	Factor[a]
1½	1½"	40/1	1.34	16.9	48.4	1935
1½	1½"	52/1	1.47	20.9	36.2	1880
1½	1½"	56/1	1.41	25.4	32.4	1816
1½	1½"	58/1	1.49	20.5	28.0	1670
1½	1½"	60/1	1.33	19.8	26.8	1605
3	1½"	15/1	1.57	20.8	144.8	2173
3	1½"	20/1	1.46	18.8	95.3	1905
3	1½"	25/1	1.35	17.4	68.0	1700
3	1½"	28/1	1.23	14.6	54.9	1537
3	2"	20/1	1.57	22.3	110.0	2200
3	2"	30/1	1.36	21.0	57.5	1800
3	2"	34/1	1.54	18.7	44.5	1513
3	2½"	20/1	1.67	23.7	116.6	2332
3	2½"	34/1	1.54	19.2	53.8	1830
3	2½"	38/1	1.51	22.0	44.2	1679
3	2½"	40/1	1.57	21.1	41.4	1655
4½	2"	18/1	1.34	26.6	93.2	1677
4½	2"	22/1	1.37	22.1	69.3	1525
4½	2½"	22/1	1.49	19.5	72.8	1820
4½	2½"	25/1	1.58	19.1	68.5	1711
4½	2½"	28/1	1.54	19.6	58.3	1632

[a] Break factor—skein break in pounds x yarn count.

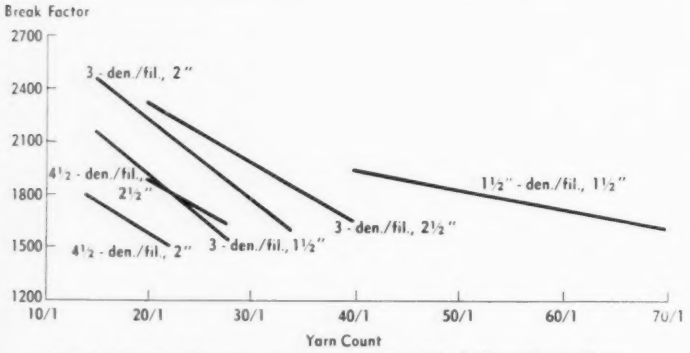

Fig. 3—Effect of Yarn Count on Break Factor of Kodel Spun Staple Yarns.

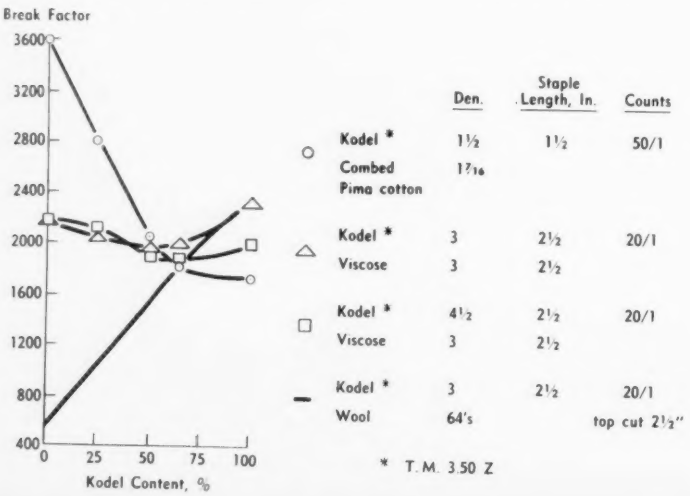

Fig. 4—Break Factor of Kodel Blend Yarns

How to dye and finish Kodel fibers and fabrics

By William R. Ivey, Jr.

THE SUCCESS or failure of a new, man-made fiber in today's textile market could well be determined by the ability of the dyer and finisher to process the fiber with good end results. Kodel fiber is considered to be one which can be handled in the dyehouse and finishing room without undue difficulties. The purpose of this paper is to describe the general practices that are recommended for processing fabrics made from Kodel fibers or from blends of Kodel with other fibers.

Dyeing

Kodel or Kodel blend fabrics are prepared for dyeing in much the same manner as others of the newer man-made fibers. Those fabrics containing water-insoluble sizing materials should be treated with an enzyme prior to scouring. Conventional desizing agents can be used for this operation. After digestion of the sizing, a scour with a synthetic detergent and an alkali such as tetrasodium pyrophosphate, sodium carbonate, or trisodium phosphate is normally sufficient to remove spinning lubricants, floor dirt, and some processing oils that might have been picked up during spinning and weaving. In the event that fabrics have been heavily stained with oil or grease, the goods may be cleaned for dyeing by adding a solvent, such as Varsol,[a] to the scouring bath.

For many spun fabrics it has been found advantageous to provide a wetting out and partial scour in open width on such as a Hinniken boil-off before handling the goods in rope form. By using temperatures as near the boil as possible, yarn and fabric shrinkage takes place, and there is less tendency for creasing or "rope marks" to occur in later dyeing. A more complete scour is carried out in the beck prior to dyeing.

Kodel is very white as produced and it is rarely necessary to whiten the fiber further. Sodium chlorite[b] has been found to be a very effective agent for use if a bleach is required for certain end uses or when the fabric is heavily stained or discolored. A bleach bath containing 1-4 g./l. of sodium chlorite (Textone) and 1-4 g./l. of formic or oxalic acid is recommended. Fabrics are bleached at 190-200°F. for 1-2 hr.

In recent months, several bleaching assistants have become commercially available for use in bleaching with sodium chlorite to retard the release of chlorine dioxide, thus slowing down the bleaching action and lessening the corrosive effect on equipment. Evaluation of such materials as X-Tan Assist[c] and Atco Bleaching Assistant[d] has indicated that use of 1-4 g./l. of these assistants in the bleaching bath is beneficial.

When Kodel is blended with another fiber that requires bleaching, hydrogen peroxide or sodium hypochlorite may be used without affecting the Kodel.

Kodel fiber may be dyed with either of two classes of dyes: disperse, or acetate, and developed, or azoic. Proper selection of dyes from these two groups normally provides very satisfactory fastness properties in the end uses for which Kodel is intended. The dyeing of Kodel under normal atmospheric conditions does not allow a sufficient dye take-up to provide a workable range of shades. To increase the rate of dyeing, carriers are added to the dye bath, and dyed fabrics with excellent fastness properties are available in a complete range of shades.

The proper selection of a carrier for Kodel is all-important to the successful dyeing of the fiber. Many commercially available materials as well as many experimental products have been evaluated as carriers. It has been found that the phenylphenols and the chlorinated benzenes are not satisfactory for use on Kodel fiber because they cause a too rapid strike of the dye, resulting in poor penetration and mottled dyeings. The chlorinated benzenes are also toxic and are therefore hazardous to use unless extreme care is taken. The carriers that have been found to give the best results on Kodel are Carrier DAC 888,[e] Cyanatex Dyeing Assistant EM,[f] and Latyl Carrier A.[g] Among the experimental products showing some promise are esters of terephthalic and other aromatic acids. All of these products provide a uniform and level exhaust of the dyes on Kodel fiber.

Some of the dyes which have been found to give excellent results on Kodel fiber are shown in Table I. From this group selections may be made to provide sufficient fastness for the intended end use.

The application of the disperse dyes in the presence of a carrier at normal atmospheric conditions is a single-bath operation. A general procedure for this application would involve adjusting the bath to a temperature of 100-110°F. and adding the dyeing assistants, including the carrier. After the assistants

(a) Product of Esso Standard Oil Co.
(b) Textone—Product of Olin Mathieson Chemical Co.
(c) Product of Tanatex Corp.
(d) Product of Metro Atlantic, Inc.
(e) Product of Cindet Chemical Co.
(f) Product of American Cyanamid Co.
(g) Product of E. I. du Pont de Nemours and Co., Inc.

William R. Ivey, Jr.

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have been circulated for 20 min., the dispersed dyes are added and allowed to circulate before the bath temperature is raised. A slow elevation of the temperature to 200-205°F. and a running time of 1-2 hr. completes the dyeing unless additions of dye are necessary. If dye must be added to obtain the correct shade, the dye bath should be cooled to 180°F. before making the addition. Following the cooling and rinsing of the fiber or fabric, an alkaline scour should be carried out to insure removal of residual carrier or excess dye.

dyes and the rayon or cotton then dyed in a separate operation with vat dyes.

Blends of Kodel fiber and wool may be dyed by either a one- or two-bath method, depending on the end-use fastness required. Disperse dyes stain wool to varying degrees, and it is necessary to make a careful selection to minimize this stain. A one-bath dyeing of both fibers is best carried out using the neutral metalized dyes for the wool portion of the blend. If a two-bath procedure is used, the Kodel is dyed first with a carrier, the stain is removed from

Table I
Dyes for Kodel Fiber

Dye	Build-up	Fastness		
		Light	Washing	Sublimation
Eastman Polyester Yellow W	Fair	Excellent	Excellent	Excellent
Eastman Fast Yellow 2R-GLF	Good	Excellent	Excellent	Excellent
Eastman Polyester Yellow RL	Good	Excellent	Good	Fair
Eastman Polyester Yellow 5R	Excellent	Excellent	Fair	Excellent
Eastman Polyester Orange 3RLN	Excellent	Good	Good	Good
Eastman Polyester Pink LB	Good	Excellent	Excellent	Excellent
Eastman Polyester Pink RL	Good	Excellent	Excellent	Excellent
Eastman Polyester Red 2G	Fair	Fair	Fair	Excellent
Eastman Polyester Dark Red FL	Excellent	Good	Fair	Excellent
Eastman Polyester Red B	Excellent	Fair	Excellent	Excellent
Eastman Fast Blue B-GLF	Good	Excellent	Excellent	Excellent
Eastman Polyester Blue 3RL	Good	Good	Excellent	Excellent
Eastman Polyester Blue BLF	Excellent	Excellent	Good	Excellent
Eastman Polyester Blue RL	Excellent	Excellent	Good	Excellent
Eastman Polyester Diazo Black B	Excellent	Excellent	Excellent	Excellent

In applying the developed dyes to Kodel fiber, a two-step procedure is necessary. The base and naphthol are applied together in the presence of a carrier and this operation is followed by a thorough scouring. The second step involves the diazotization with sodium nitrite and sulfuric acid at 180-190°F. A final scour completes the dyeing.

Kodel fiber may also be dyed with excellent results at temperatures above 212°F. in pressurized equipment. The higher temperatures markedly increase the dye absorption of Kodel and no carrier is necessary for this type of application.

It should be noted in the dyeing of Kodel by either the carrier method or in pressure equipment that dyes begin a level and uniform exhaust on the fiber at fairly low temperatures. Rapid increases in temperature should be avoided to prevent uneven and streaked dyeings. However, unreasonable precautions need not be taken; normally, good dyehouse procedures are satisfactory.

In dyeing Kodel fiber in the presence of a carrier, a temperature of 200-205°F. is sufficient to provide good exhaustion, leveling, and penetration of the dye. It has not been found necessary to approach the boil by the use of additional heating elements or by using sparger steam in the top of the dye becks.

Blends of Kodel and the cellulosic fibers, cotton or rayon, may normally be dyed in a single bath, using the disperse dyes and a carrier for the Kodel and direct dyes for the cotton or rayon. The dyeing should first be carried out at 200-205°F. to exhaust the dyes on the Kodel and then cooled to 180°F. to exhaust the direct dyes. If fastness properties superior to those offered by the after-treated direct dyes are required, the Kodel may be dyed first with disperse

the wool by scouring, and then the wool is dyed to the desired shade in a second bath.

Finishing

The finishing of fabrics containing Kodel fiber could well be a program in itself, but a few important points should be mentioned here. Chemical finishing of 100% Kodel fabrics or those containing a high percentage of Kodel is generally unnecessary, since the fiber exhibits an excellent hand and physical properties such as wrinkle recovery, shrinkage control, and "wash-and-wear" features. It may be necessary at times to vary the hand by the use of softeners or thermoplastic resins, but the use of these materials should be carefully considered since some of the other excellent fiber properties might be adversely affected. Fabrics containing lower percentages of Kodel may be resin-finished to build up the optimum hand and functional properties of the other fiber in the blend with little effect on the Kodel.

Mechanical finishing of Kodel fabrics is usually required for the utmost in appearance and performance of these fabrics. Singeing, brushing, shearing, napping, and decating may be required, depending on the fabric type. Singeing of Kodel fabrics should be done after dyeing, as the melted ends of the fibers dye heavier than the fiber surfaces and specky dyeings result.

Heat-setting may prove to be advantageous on certain styles of Kodel fabrics, although it is not considered necessary to provide excellent dimensional stability, wrinkle recovery, pilling resistance, or the "wash-and-wear" features. If necessary, the heat-setting operation may be carried out on either a heated roll or in a clip or pin tenter frame. Careful control is necessary to insure a uniform application

of heat over the entire fabric area. Temperatures of 375 to 425°F. may be used for 10 to 30 sec., depending on the type of equipment used. Experiments should be made using one's own equipment to determine the best time and temperature for heat-setting.

Performance of Kodel Fiber in Fabrics and Garments

A large number of fabrics of the various blends with Kodel have been processed successfully during the past few years. Garments have been made from many of these, and exhaustive studies have been made to accumulate data on the properties of Kodel fabrics and to determine the performance the ultimate consumer may expect from these fabrics. On the basis of these test garments and of information gathered by means of various laboratory testing equipment, it is believed that Kodel will offer many worthwhile advantages for men's, women's and children's apparel. We have no illusion that Kodel is an all-purpose fiber; these qualifications are yet to be found in any single fiber. We believe, however, that the properties of Kodel fiber when reflected in a finished fabric are such that exceptional performance can be expected.

Blends of Kodel with other fibers in the proper proportions have produced fabrics and garments that remain fresh and neat throughout the day's wearing because of Kodel's resistance to wrinkling or mussing. Properly engineered fabrics and garments of Kodel possess the "wash-and-wear" or "easy care" properties that are so much in demand by today's housewife—they can simply be laundered in the washing machine; drip-, line-, or tumble-dried; and are then ready to wear again with no ironing or, at most, minor touching-up of collars or cuffs.

If touch-up ironing is necessary, another property of Kodel serves to advantage: Kodel's heat resistance is high and fabrics may be safely ironed at temperatures as high as 425°F., a temperature higher than that recommended for most other man-made fibers.

Kodel fiber has a high resistance to pilling, and this property greatly extends the range of fabrics able to honestly bear the "stay fresh" or "wash-and-wear" label. Sheen gabardines, medium-and heavy-weight woolens and worsteds, flannels and oxford shirtings are only a few of the fabrics that have been made from Kodel and have performed well in our laboratory and consumer-wear tests.

Certainly a prerequisite to the "wash-and-wear" feature is dimensional stability, and Kodel is excellent in this respect. Kodel fiber shrinks less than 1% in boiling water, and properly finished fabrics produce garments that do not shrink out of shape so that they are no longer wearable.

Properties such as low specific gravity, covering power, resilience, and a pleasant hand or feel should give Kodel a preferred position for many uses.

On the basis of fiber and fabric properties, performance in mill processing, as well as dyeing and finishing properties, Kodel fiber should be a worthy addition to the present as well as the future textile market.

Processing of Kodel

(Continued from Page 48)

The packages should be of uniform size so that uniform penetration may be obtained.

The conventional double-quetsch synthetic slasher, either seven or nine cylinders, gives good results in slashing Kodel staple yarns. The desired minimum and uniform tension on the yarn as it is fed to the slasher from the creel can best be obtained with a filament-type, single-or double-deck slasher creel.

In processing with the double-quetsch slasher, the first (back) quetsch roll is usually run with 100 to 200 psi. less pressure than the second (front) quetsch roll. The back roll may be covered with a felt boot, but this is not necessary. Pressures in the range of 800 to 1,000 psi., including the pressure due to the weight of the roll, have given good results.

Stretch during the slashing operation should be controlled as closely as possible and should be held to a minimum. Yarns should reach the loom with maximum elasticity to insure high weaving efficiency. Recommended stretch is 2% or less.

Drying cylinder temperatures usually range from 190 to 225°F. At these temperatures, the seven-cylinder slasher dries about 75 oz. of yarn per minute and thus allows speeds in the range of 15 to 25 yd./min., depending upon the number of ends in the warp and the size of the yarn being slashed. Warps should contain 5-6% moisture.

Kodel yarns and blends of Kodel with other fibers can be sized with etherized starches, such as Penford Gum 260, to which a binder, such as Elvanol or Resiliod 249, has been added. For most Kodel yarns, the amount of binder should be 20-30% of the weight of the starch. A lubricating wax, or softener, such as Seyco Wax "C", Fiberlay, or Houghto Size No. 475, increases loom efficiency and reduces shedding. The amount of such waxes in the size formula should be 10-15% of the amount of starch used. In order to recommend specific formulas, the denier and staple length of the fiber, yarn count, blend, twist, and fabric construction must be considered as well as the sizing cost. The following size formulas will serve as a guide and may be used as a starting point to suit the needs of individual mills. Size take-up will range from 15-20% depending on the formula used.

A. **Tropical:**

100% Kodel, 3-den./fil., 2"

Yarn count	17/1, 3.5 T.M. "Z"
Loom construction	50 × 48 plain weave
Per 100 gallons:	110 lb. Penford Gum 260
	35 lb. Elvadex
	3½ lb. Soda ash
	10 lb. Fiberlay
Size-box temperature	200°F.
Stretch	1.5%

B. **Broadcloth:**

35% combed Pima cotton
65% Kodel, 1½ den./fil., 1½"

Yarn count	50/1, 4.0 T.M. "Z"
Loom construction	120 × 68 plain weave
Per 100 gallons:	120 lb. Penford Gum 260
	30 lb. Elvanol 51-05
	15 lb. Fiberlay
	¼ lb. Dowicide "A"
Size-box temperature	200°F.
Stretch	0.8%

C. **Suiting:**

55% Kodel, 3 den./fil. and 4½ den./fil., 2½"
45% viscose, 3 den./fil., 2½"

Yarn count	22/1, 4.0 T.M. "Z"
Loom construction	62 × 52 plain weave
Per 100 gallons:	160 lb. Penford Gum 280
	20 lb. Elvanol 51-05
	16 lb. Fiberlay
	¼ lb. Dowicide "A"
Size-box temperature	170°F.
Stretch	1.0%

D. **Flannel:**

70% Kodel, 3 den./fil., 2"
30% 64's wool top cut 2"

Yarn count	16/1, 4.0 T.M. "Z"
Loom construction	72 × 58
Weave	2/1 twill
Per 100 gallons:	160 lb. Penford Gum 280
	30 lb. Elvanol 51-05
	10 lb. Fiberlay
	¼ lb. Dowicide "A"
Size-box temperature	170°F.
Stretch	1.0%

Weaving

We have woven a wide variety of fabrics from Kodel fiber and Kodel fiber blends and have encountered no unusual difficulties. Fabrics employing fine-count yarns, such as 30/1 or finer, have been woven on filament-type looms, such as the C&K S-6. Heavier fabrics employing coarser yarns have been woven satisfactorily on looms such as the C&K "MP", W-3, and Draper XD. Loom adjustments for early timing usually produce best weaving results: and warp tension should be in the range of 58 to 62 points, as measured by the Crompton and Knowles warp tensionmeter on a total of 7,100 denier of warp yarn.

SUMMARY

The cotton system of staple processing may be used to process Kodel fiber and Kodel fiber blended with natural or man-made fibers into yarns having good strength, uniformity, and character. Years of processing tests indicate that these yarns may be produced without any unusual difficulties on conventional cotton system equipment. A wide range of Kodel fiber yarns have been warped, sized, and woven into fabrics using conventional equipment employed in the textile industry with satisfactory results in every phase of processing.

Discussion

Following the presentation of the prepared papers there was a question and answer period during which questions submitted by the audience were answered by the speakers. George W. Wernz of Tennessee Eastman Co. served as moderator.

QUESTION: Is Kodel a permanently crimped fiber?

FORRESTER: The mechanical crimp in Kodel fiber as it is received at the mill is relatively permanent. Some of the crimp is removed during the carding operation. Nevertheless, by the time the fiber gets to the drawing and roving, there is still adequate crimp.

QUESTION: What is the price of Kodel staple?

FORRESTER: $1.60 for the 1½ denier, $1.50 for the 3 and 4½ denier.

QUESTION: Is Kodel filament available at this time?

FORRESTER: We are not offering filament yarn at present. We have such a yarn under development and in time we shall offer it to the trade.

EPHRAIM FREEDMAN (R. H. Macy & Co.): What percentage of Kodel, when used in blends with natural fibers, is required to produce maximum wash-and-wear properties?

IVEY: From our findings, of course, the 100% fiber is the best; but at least 50% is required in a blend with either rayon or cotton to produce excellent wash-and-wear properties.

FREEDMAN: I believe that one of your associates said that 60% phenol and 40% methylene chloride is a solvent for Kodel. Will that permit separation of Kodel from other polyester yarns?

MARTIN: No. But there is a way you can separate Kodel chemically from other known polyesters. The technique is this: Other polyesters, if treated with a solution of 10% hydrozene and butanol, will practically dissolve if boiled for ten minutes. Upon cooling to room temperature, they will form a precipitate. Kodel will not do this. It is a negative test for Kodel. It doesn't distinguish it from other polyesters. I don't know of any positive test at the present time chemically for distinguishing it from other polyesters—only this negative one.

FREEDMAN: What about the flammability of Kodel?

MARTIN: It burns rather slowly. It melts, and, as it melts, it falls loose, falls free, that is. If you have a hanging curtain it will probably extinguish itself by falling off.

Bank Holds Textile Exhibit

An exhibition of fabrics for the coming seasons was held recently at the new main office of Union Dime Savings Bank, New York City. Ranging from Dacron to denim, percale to parachute, fire hose to tire cross-sections, and even swimming pool covers, the exhibit covered cloth from yarn to finished product, and displayed the use of fibers and chemicals in textiles. The exhibit was made possible through the cooperation of 35 leading textile and chemical companies, many of them neighbors of the bank.

John Crosby

(Continued from Page 22)

Looking back on it now, John Crosby says that his election to return to Scheuer was the wisest decision he had ever made in his young life. He was hardly settled at his desk on that first day back on the old job when the telephone rang, and there was a man on the other end of the wire who had some yarn to sell. The telephone kept ringing incessantly from that day on for the next four years, and John Crosby kept answering it with such skill and marketing ability that by the end of the first postwar year, he earned $20,000 in commissions. By 1948, his last full year with Scheuer, Crosby, not yet 30 years old, had an income of $45,000 from his work as a fabric broker and salesman.

Along with his earnings in money, the young man who had been turned down in 1945 for a selling job by three of the biggest names among the big name mill selling agents, had also earned a considerable reputation as a textile merchant. There were many houses by now eager to bid for his services. Feeling that the time had come for him to make another move, Crosby began to take an interest in the openings suggested to him.

He accepted finally a post with Iselin-Jefferson as second in command of the company's synthetics department. Weighing one thing with another, he felt that the job with Iselin was the best one for him. For one thing, he recalls today, Iselin's synthetics operation was small compared with some of the other selling houses of comparable stature. There was room at Iselin, Crosby correctly estimated, for a good man to get in on the ground floor and help build the department. He went to work for Iselin at less than half his income at Scheuer so convinced was he that the opportunity offered to him by Floyd Jefferson, Jr. was the right step for him at that time. Today, he says, his decision to leave Scheuer to go to Iselin was the second wisest move he ever made.

On His Own Uptown

In 1953, he was made boss of Iselin's growing synthetics sales. Within 12 months, his performance in the job had so deeply won the confidence of the company's management that it went along with his recommendation the next year that the department be moved uptown to 1430 Broadway, cutting itself free from the huge Iselin selling operation then housed at 90 Worth Street. Uptown in the heart of the converting and garment manufacturing district, Crosby, now a vice president was, as Floyd Jefferson Jr. points out today, strictly on his own, fully responsible for the fortunes of Iselin's synthetics' sales.

He lost no time in charting a fresh course for these sales, taking off in an entirely new direction which required an entirely new kind of navigation for the department. Among his innovations was to bring to the Iselin synthetics lines a bold determination to lead in fresh and varied styling; one of his first acts as manager of the department was to insist on an immediate departure from excessive reliance on a limited line of staple fabrics and a limited list of customers. With the sharp decisiveness and nerve that marks his way of doing things, he put his new policy into effect by notifying all customers that existing arrangements were cancelled and that new terms and conditions of doing business would be negotiated for the future.

These radical new tactics, inevitably, of course, brought loud protests and thunderous reverberations. One of the biggest customers threatened to take its business elsewhere. But as things worked out, the customer, along with lots of other customers old and new, found the Crosby way of doing things surprisingly to its liking, and was glad to stay on Iselin's books and in fact increase its orders.

Along with new selling tactics and livelier and more varied styling for the mills Iselin sold, Crosby worked hard to increase substantially the number of looms Iselin mills had on synthetics. All the things he did and all the new ideas and new practices he brought to Iselin's synthetics sales are too complicated and varied to describe here; the important fact was that they paid off at a time, during those tough competitive years following the Korean War, when it was not easy to expand sales in synthetics and keep profits at a satisfactory level. The growth of the company's business in Crosby's department since he took full charge is indicated by these figures: Iselin's dollar volume of synthetic sales jumped from $12 million in 1953 to $20 million in 1958.

Made General Sales Manager

The more that management at Iselin-Jefferson saw of Crosby's way of selling, the more they liked it. Last June, John Crosby, just past his 41st birthday, was made general sales manager of this highly respected, 150-year old selling house, making him, as Floyd Jefferson, Jr. puts it, a key man at the partnership level in this company which in 1958 had a sales volume in excess of $122 million.

The man who has thus climbed to so high a peak of success and responsibility in fabric marketing did it all by unstinting application of his inborn abilities. He had nothing else to help him—a fact that makes the story of his career at once so refreshing, so startling and so heartening. John Crosby was born in New York City in 1917, the youngest child of a family of three boys and three girls. His father, James Crosby, who was cashier of the Old Fifth National Bank, died when John Crosby was ten months old. The untimely death of the family breadwinner posed for his widow and children the stark problem of how to get enough money to live. Their grandfather, the late Samuel Crosby, who was assistant principal of New York's De Witt Clinton High School, gave what help he could. But rallied by the indomitable courage and high confidence of their mother, Veronica Crosby, all the younger members of the family set out with tremendous verve to make the family self-supporting and solvent. Mary, the eldest child, then 14, promptly got a job. And, one by one, the younger brothers and sisters as they reached working age, went out and got jobs too.

John's time came when he reached his 15th year. He left his courses at Evander Childs High School in his second year and was taken on as an office boy at Northam Warren Corp., makers of cosmetics, where his sister Mary and older brother Richard were already working.

In less than six months, the president of the company, Northam Warren himself, had it borne upon him that, in the youngest Crosby on his payroll, he had no ordinary office boy. The remarkable speed, skill and cheerful willingness with which John Crosby performed his duties impelled Warren to draft the young fellow to serve as his very personal office boy, or, as it would be described today, in an age given to more pretentious titles, as a kind of administrative assistant.

(Continued on Page 67)

ARNEL®

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NEW FABRICS

NEW YARNS

Saran Rope Available

Columbian Rope Co. is now producing a rope said to be resistant to practically all liquids. The rope is manufactured from Saran, an extruded thermoplastic material man-made by Dow Chemical Co. Columbian said the Saran rope has characteristics wholly its own and its use is limited to operations where chemical action greatly shortens the normal life of a regular fiber rope, such as in chemical plants and processes. It has great resistance to abrasion and is, from all indications, unaffected by age or wear. *For further information write the editors.*

Polypropylene Fabrics Shown

Montecatini, Italy's chemical combine, showed a wide range of polypropylene plastic products, textile fibers and fabrics at the Society of Plastics Industry's recent exposition at Chicago. Montecatini polypropylene fibers are said to possess high flexual strength and light weight, good resistance to acids, alkalies, sunlight and weathering; they can be dyed with acetate and vat type dyes, and have good heat resistance and can be ironed.

Blankets, car robes and suitings made from polypropylene and polypropylene-wool blends were shown. They are soon to be commercially marketed in Italy. Montecatini plans to build at Terni, Italy, a plant with an annual capacity of 10 million pounds of polypropylene yarns and staple fiber.

Nonwoven Interlining

Chicopee Manufacturing Co. is introducing the first nonwoven work shirt collar interlining fabric, Viskon, to be certified washable by the American Institute of Laundering. Made of American Viscose Corp.'s Avisco rayon staple, Viskon interlining was developed by Chicopee after years of research and testing in conjunction with the A.I.L. Before receiving the A.I.L. certified washable seal, Viskon withstood 20 launderings and was put through other tests involving shrinkage, tensile strength, chlorine retention, weight per square yard, abrasion, crease recovery, water absorbency, and resistance to gas, fading and perspiration. *For further information write the editors.*

Textured Nylon Threads

Taslan textured nylon threads with bulk equal to either linen or cotton thread have been introduced for use in inseaming of shoes, according to the Du Pont Co. Advantages of the new product over synthetic threads currently used in such operations are said to be: improved wax pickup, better holding of the last stitch, and a tight hinge. It is expected the threads may eventually fit into other shoe sewing operations. Use of synthetic fiber threads in the shoe field started some 15 years ago. Currently, nearly 2,000,000 pounds of threads of nylon and Du Pont Dacron polyester fibers are consumed each year in the shoe industry. *For further information write the editors.*

Fiberglas Fabrics

J. H. Thorp & Co., Inc., has developed a new line of decorative fabrics woven from the new fiberglas aerocor yarns. Thorp is offering six prints at prices ranging from $6.40 to $8.65 per yard, New York retail. The fabrics are said to blend with both traditional and contemporary designs and at the same time assure maximum serviceability, with the fiberglas providing high resistance to sun damage. *For further information write the editors.*

Leavy sees brighter outlook for converters

Although the year ahead will have its share of problems, the outlook for the remaining ten months of 1959 is a promising one for textile distributors, according to Nat Leavy, Goldstein & Leavy, Inc., president of the Textile Distributors Institute. In a special article written for "Southern Textile News" of Jan. 31, Leavy pointed out that distributors of finished fabrics made primarily of man-made fibers witnessed in late 1957 an abortive market strengthening that was generally satisfactory. In the following months, however, deterioration in the national economy brought a hasty end to this improvement.

As we look ahead to the ten remaining months of 1959, Leavy continued, we see much concrete evidence which augurs a steady, although slow, improvement in the condition of our market.

On the "plus side", he cited the following factors:
1. Inventories of textile distributors generally are of minimum to manageable proportions.
2. Our forward commitment position is low, which leaves us in a favorable position for turning quickly as style changes become apparent.
3. Our customers' inventories are low.
4. Stores have depleted their inventories below minimum workable proportions in relation to sales of garments to consumers.
7. General level of economic development in the country continues favorable.

Among unfavorable factors noted by Leavy were: apparent continued willingness of mills to produce more goods than the market can absorb; probable wage increases in 1959 by textile mills which might result in converters being caught in the middle of a season with rising gray goods prices.

On balance, however, Leavy wrote, "it would appear that 1959 holds more promise for the converter and distributor of fabrics primarily made with man-made fibers than did 1958—and the promise for future growth is better perhaps than it has been in years.

"We would like to see real improvement in the total textile picture" Leavy continued "and believe that our sources of supply could contribute much if they would do a better job of managing their production. We suggest to the textile mill products industry the following concrete steps which will benefit them more than us perhaps, but which will also benefit all segments of the industry:

"1. Undertake a complete survey of the textile mill products industry to arrive at a satisfactory and accepted definition of "capacity". 2. Determine reasonable levels of actual probable consumption by category of end-use. 3. Gear production facilities properly in relation to capacity and consumption by end-uses so that markets are supplied in an orderly manner with no major inventory build-ups in any category due to obvious but unnoticed shiftings.

"We will be troubled somewhat during 1959 by accustoming ourselves to the fiber labeling law—a completely unnecessary piece of legislation which simply will increase bookkeeping and provide no useful information not already available to the consumer. Members of the man-made textile converting industry working through The Textile Distributors Institute will find that the TDI will be able to help them substantially, both in arriving at fair regulations on the part of the Federal Trade Commission, and in making necessary determinations as to compliance, etc."

New Associate Members

The list of associate members of the Textile Distributors Institute has been extended by the addition of two new members, according to Hilda A. Wiedenfeld, executive director. They are Virginia Mills, Inc., Swepsonville, N. C., Julian T. Baker, vice president and treasurer; and Union Carbide Chemicals Co., a division of Union Carbide Corp., 100 East 42 Street, New York 17, N. Y., A. L. Snyder, sales manager, textile fibers department.

Labeling Advisory Group

Robert P. Lynn, of Burlington Industries, Inc., has been named chairman by Halbert M. Jones, president of the American Cotton Manufacturers Institute, of a special committee to work with the Federal Trade Commission in connection with the drafting of regulations for administration of the Textile Fiber Products Identification Act. Other members of the committee are: A. W. Anthony, J. P. Stevens and Co., Inc.; W. C. Daniel, Dan River Mills, Inc.; Donald K. Evans, Riegel Textile Corp.; Don S. Holt, Cannon Mills Co.; Harold Kennedy, Deering, Milliken and Co., Inc.; John J. McMahon, Berkshire-Hathaway, Inc.; Elliot Neal, Aberfoyle Manufacturing Co., and Felix Schwamberger, Bloomsburg Mills, Inc. The committee was appointed to prepare recommendations for submission to the FTC. The law will not become effective until March, 1960.

Italian Sportswear

Silan S.A.S. of Crotti Renato & Co., one of Italy's largest textile enterprises, has entered the American market. An American branch, Silan Limited, has been set up in New York City, with additional branches to be opened in other U.S. cities. Crotti Renato expects to ship 4,000 dozen sweaters and sportshirts to the U.S. each month, and shipments will be stepped up as American retail distribution is expanded.

Silan's Italian plants in Bologna and Capri cover 250,000 square feet and are equipped with modern machinery to produce sportshirts, rib-knit and bulky sweaters for both men and women. Its productive capacity puts Silan in a position to export to the U.S. more than the combined total of all other exporters of Italian knitted outerwear.

U. S. MAN-MADE FIBER PRICES

This schedule lists the prices of yarns, staple and tow as reported by the producers in January 1959. All prices are given as subject to change without notice.

CELLULOSIC YARNS

ACETATE

American Viscose Corp.

Current Prices Effective December 21, 1956

Bright and Dull

• Intermediate Twist

Denier & Filaments	Cones & 4-6 Lb. Tubes	Twister Tubes	Warps	Spinning Cones	Twist Warps
55/14	$1.04	$1.02	$1.05	$.98	$.99
75/20	1.00	.98	1.01	.94	.95
100/28	.95	.93	.96	.89	.90
120/32	.86	.84	.87	.80	.81
150/41	.77	.76	.78	.72	.73
200/54	.73	.72	.74	.69	.70
300/80	.69	.68	.70	.65	.66

• Standard Twist 2¢ additional

Terms: net 30 days.

Celanese Corp. of America

Current Prices

Effective December 20, 1956

Bright and Dull

Denier and Filaments	Intermediate Twist 4 & 6-Lb Cones	Beams	4 & 6-TM Tubes	4-Pound Cheeses	Spinning Twist Cones	Beams	O Twist Tubes
45/13	$1.17	$1.18	$	$	$	$1.12	$ ....
55/15	1.04	1.05	....	....	.98	.99	.925
75/20	1.00	1.01	.98	....	.94	.95	.84
75/50	1.02	1.03	1.00	....	....	.97	.89
100/26-40	.95	.96	.93	....	.89	.90	.81
120/40	.86	.87	.85	....	.80	.81	....
150/40	.77	.78	.77	.77	.72	.73	.69
200/52	.73	.74	.73	....	.69	.70	....
300/80	.69	.70	.69	....	.65	.66	.63
450/120	.67	.68	.67	....	.63	.64	....
600/160	.65	.66	.65	....	....	....	....
900/80-240	.63	.64	.63	....	....	....	.61

150 Denier 12-TM Tubes ..... .76

55/0/15 Dull Tricot Beams ..... .985

2-Pound Cheeses ..... .01 Less Than 4-Pound Cheeses

2-BU and 4-Bu Tubes ..... Same Price as 4 and 6-Lb. Cones

2-Lb. Twist Tubes ..... .01 Less Than 4 & 6-Lb. Twist Tubes on 120, 200 and 300 Denier Intermediate Twist

Terms: Net 30 days. Shipments prepaid to any destination in U.S.A. east of the Mississippi River. Shipments west of the Mississippi will be made on a collect freight basis and allowance will be made for the lowest transportation cost to the point of river crossing.

Prices subject to change without notice.

All previous prices withdrawn.

• No transportation allowed (F.O.B. shipping point).

Prices on unlisted items can be obtained upon request.

Orders are subject to conditions of sale appearing on our acknowledgments of orders.

Celaperm Filament Yarn Prices

Denier and Filaments	Intermediate Twist 4 & 6-Lb. Cones	Beams	Spinning Twist Cones	Beams
55/15	$1.37	$1.38	$1.31	$1.32
75/20	1.34	1.35	1.28	1.29
100/26	1.28	1.29	1.22	1.23
120/40	1.19	1.20	1.13	1.14
150/40	1.11	1.12	1.06	1.07
200/52	1.05	1.06	1.01	1.02
300/80	1.01	1.02	.97	.98
450/120	.99	1.00	.95	.96
600/160	.97	.98	....	....
900/80	.94	....	....	....

3 to 5 Turns on Cones or Beams — $.02 Additional

Celaperm Black Yarn Prices

Effective March 11, 1955

Denier and Filaments	4 & 6-Lb. Intermediate Twist Cones	Beams	Spinning Twist Cones	Beams
55/15	$1.17	$1.18	$1.11	$1.12
75/20	1.14	1.15	1.08	1.09
100/26	1.08	1.09	1.02	1.03
120/40	.99	1.00	.93	.94
150/40	.91	.92	.86	.87
200/52	.85	.86	.81	.82
300/80	.81	.82	.77	.78
450/120	.79	.80	.75	.76
600/160	.77	.78	....	....
900/80	.74	....	....	....

Terms: Net 30 days. Transportation prepaid or allowed to any destination in U.S.A. East of Mississippi River. Transportation prepaid to any U.S.A. destination West of Mississippi River, but charge is made for the portion of transportation from river crossing nearest customer's location.

Prices subject to change without notice.

All previous prices withdrawn.

Note: Prices on unlisted items can be obtained upon request.

Orders are subject to conditions of sale appearing on our Acknowledgments of Orders.

Arnel Triacetate Yarn Prices

Bright & Dull

Effective August 19, 1958

Supersedes April 18, 1958

Denier and Filaments	Cones	Beams	Thick and Thin Cones
55/WKZ/15	$	$1.10	$ ....
55/2Z/15	1.26	1.27	....
75/WKZ/20	....	1.16	....
75/2Z/20	1.21	1.22	....
100/2Z/26	1.14	1.15	....
150/2Z/40	.95	.96	....
200/2Z/52	.92	.93	1.25
300/2Z/80	.87	.88	1.23
450/2Z/120	.86	.87	....
600/2Z/160	.85	.86	1.21

3 to 5 Turns on Cones or Beams—$.02 Additional

Premium for Black Arnel—$.25 Per Pound

Premium for Navy Arnel—$.37 Per Pound

Terms: Net 30 days. Transportation prepaid or allowed to any destination in U.S.A. East of Mississippi River. Transportation prepaid to any U.S.A. destination West of Mississippi River, but charge is made for the portion of transportation from river crossing nearest customer's location.

Prices subject to change without notice.

All previous prices withdrawn.

Note: Prices on unlisted items can be obtained upon request.

Orders are subject to conditions of sale appearing on our Acknowledgments of Orders.

E. I. du Pont de Nemours & Co.

Textile Fibers Dept.

Current Prices

Acetate

Denier & Filament	Zero Twist Tubes	Beams	Low Twist Cones	Beams	Intermediate Twist 2 & 4 Lb. 5/8" Tbs.	4 & 6 Lb. Tw. Tbs.	Cones	Bms.
45-13	$1.03	$1.11		$1.12				
55-18	.925	.985		.99			$1.04	$1.05
55-24	.925	.985		.99			1.04	1.05
75-24	.84	.94		.95		$.98	1.00	1.01
75-50				.97		1.00	1.02	1.03
100-32	.81	.89		.90		.93	.95	.96
120-50	.77	.80		.81		.85	.86	.87
150-40	.69	.72	.72	.73	.77	.77	.77	.78
200-60	.68		.69	.70	.73	.73	.73	.74
240-80			.67				.71	
300-80	.63	.65	.65	.66	.69	.69	.69	.70
450-120	.63		.63	.64	.67	.67	.67	.68
600-160					.65		.65	.66
900-44					.63		.63	.64
900-240					.63		.63	.64
1800-88					.61		.61	.62
2700-132					.61		.61	.62
3000-210					.61			.62

(A) Regular Twist (2.9 and 5 T.P.I.)—add $.02 to Intermediate Twist Price.

(B) 1 lb. 5/8" Tubes—add $.02 to 2 & 4 lb. 5/8" Tube Price.

Color-Sealed

Denier & Filament	Zero Twist Tubes	Beams	Low Twist Cones	Beams	Intermediate Twist Twisted Tubes 2 Lb.	4 & 6 Lb.	Cones	Beams
55-18	$1.245	$1.315		$1.32	$1.35	$1.35	$1.37	$1.38
75-24	1.18	1.28		1.29	1.32	1.32	1.34	1.35
100-32	1.14			1.23	1.26	1.26	1.28	1.29
150-40	1.03	1.06	1.06	1.07	1.10	1.11	1.11	1.12
200-64	1.00		1.01	1.02	1.04	1.05	1.05	1.06
300-80	.95	.97	.97	.98	1.00	1.01	1.01	1.02

(A) Regular Twist—Add $.02 to Intermediate Twist Price.

Black

Denier & Filament	Zero Twist Tubes	Beams	Low Twist Cones	Beams	Intermediate Twist 2 & 4 Lb. 5/8" Tbs.	4 & 6 Lb. Tw. Tbs.	Cones	Beams
55-18	$1.045	$1.115		$1.12		$1.15	$1.17	$1.18
75-24	.98	1.08		1.09		1.12	1.14	1.15
100-32	.94			1.03		1.06	1.08	1.09
150-40	.83	.86	.86	.87		.91	.91	.92
200-60	.80		.81	.82		.85	.85	.86
300-80	.75	.77	.77	.78	.81	.81	.81	.82
450-120			.75	.76	.79	.79	.79	.80
600-160			.73	.74	.77	.77	.77	.78
900-240			.73	.74	.74	.74	.74	.75

(A) Regular Twist (2.9 and 5 T.P.I.)—add $.02 to Int. Twist Price.

(B) 1 lb. 5/8" Tubes—add $.02 to 2 & 4 lb. 5/8" Tube Price.

Specialty Yarns

Type 20 Same Price as Regular Yarn

Type C Same Price as Regular Yarn

Thick & Thin

Denier & Filament	Natural Cones	Beams	Black Cones	Beams	Color-Sealed Cones	Beams
200-64 Int. Twist	1.05		$1.15		$1.35	
200-64 Reg. Twist	1.08	$1.09	1.17	$1.21		

Terms: Net 30 days. Subject to change without notice.

Domestic Freight Terms are F.O.B. shipping point, freight prepaid our route to points east of the Mississippi River within the continental limits of the United States, for points west of the Mississippi River freight allowed to the Mississippi River crossing nearest purchaser's mill if shipped overland, or port of exit of purchaser's choice east of Mississippi River.

Eastman Chemical Products, Inc.

Tennessee Eastman Co.

Effective December 21, 1956

"Estron"* Yarn, Bright or Dull — White

Denier & Filament	Regular Twist Cones	Intermediate Twist Cones	Intermediate Twist Tubes	Low Twist Beams	Low Twist Cones	Low Twist Beams	Zero Twist Tubes	Tricot Beams Spun Twist	Tricot Beams Zero Twist
55/13	$1.06	$1.04	$1.02	$1.05	$.98	$.99	$.92½	$.99	$.98½
75/19	1.02	1.00	.98	1.01	.94	.95	.84	.95	....
75/49	1.04	1.02	....	1.03	....	....	....	....	....
100/25	.97	.95	.93	.96	.89	.90	.81	....	....
120/30	.88	.86	.84	.87	.80	.81	....	....	....
150/38	.79	.77	....	.78	.72	.73	.69	....	....
200/50	.75	.73	....	.74	.69	.70	....	....	....
300/75	.71	.69	....	.70	.65	.66	.63	....	....
450/114	.69	.67	....	.68	.63	.64	....	....	....
600/156	.67	.65	....	.66	.62	.63	.63	....	....
900/230	.65	.63	....	.64	....	....	.61	....	....
Heavier	....	....	....	....	....	....	.56	....	....

Current Prices—December 19, 1955

"Chromspun"*—Standard Colors (Except Black)

Denier & Filament	Regular Twist Cones	Regular Twist Beams	Intermediate Twist Cones	Intermediate Twist Beams	Low Twist Cones	Low Twist Beams
55/13	$1.39	$1.40	$1.37	$1.38	$1.31	$1.32
75/19	1.36	1.37	1.34	1.35	1.28	1.29
100/25	1.30	1.31	1.28	1.29	1.22	1.23
150/38	....	....	1.11	1.12	1.06	1.07
300/75	....	....	1.01	1.02	.97	.98
450/114	....	....	.99	1.00	.95	.96
900/230	....	....	.94	.95	....	....

Current Prices

"Chromspun"*—Black

Denier & Filament	Regular Twist Cones	Intermediate Twist Cones	Intermediate Twist Beams	Low Twist & Spun Twist Beams
55/13	$1.19	$1.17	$1.18	$1.12
75/19	1.16	1.14	1.15	1.09
100/25	1.10	1.08	1.09	1.03
150/38	.93	.91	.92	.87
200/50	.87	.85	.86	.82
300/75	.83	.81	.82	.78
450/114	.81	.79	.80	.76
900/230	.76	.74	.75	....

Prices are subject to change without notice.

Prices on special items quoted on request.

Terms: Net 30 days. Payment—U. S. A. dollars.

Transportation charges prepaid or allowed to destination in the United States east of Mississippi River. Seller reserves right to select route and method of shipment. If Buyer requests and Seller agrees to a route or method involving higher than lowest rate Buyer shall pay the excess of transportation cost and tax.

• "Estron" and "Chromspun" are trade-marks of the Eastman Kodak Co.

RAYON

American Bemberg

Current Prices

Regular Production Reel Spun Yarn

Den/Fil	No Turn Skeins	Turned* Skeins & Cones	8½ Turns	High Turn Skeins & Cones 12 Turns	15 Turns	18 Turns
40/30	$1.49	$1.95	....	....	....	$2.08
50/36	1.24	1.50	....	....	....	1.80
65/45	1.14	1.30	....	$1.53	....	1.58
75/60**	1.04	1.18	....	1.41	$1.46	1.49
100/74**	.95	1.08	....	1.33	1.38	1.44
125/60	.94	1.05	$1.09	1.30	....	....
150/120	.93	1.02	1.12	1.27	....	....
300/225	....	.95	....	....	1.08	....
900/372	....	.85	....	....	....	....
1800/744	....	.85	....	....	....	....

• Turn includes twists up to 6 turns on 40 and 50 denier, and up to 5 turns on heavier deniers.

•• Spun Dyed Cupracolor Black 15¢ per lb. extra.

"44" HH Spool Spun Yarn

Den/Fil	No Turn Tubes	No Turn Beams	5 Turn Beams	5 Turn Cones	12 Turn Beams	12 Turn Cones	15 Turn Cones
40/30	$1.35	$1.35	....	....	....	....	....
50/36	1.00	1.00	....	....	....	....	....
65/45	1.05	....	....	....	....	$1.42	....
75/45•	.97	....	$1.08	$1.08	$1.31	1.31	$1.39
100/60•	.89	....	1.03	1.03	1.23	1.23	1.31
125/60	.84	....	.99	.99	....	....	....
150/90•	.77	....	.81	.81	1.15	1.15	1.24
150/120	.81	....	....	.93	....	....	....

• Available also in Spun Dyed Cupracolor Black at 15¢ per lb. extra.

"44" HH "Parfe" (Type 51) Spool Spun Yarn

Den/Fil	No Turn Cones	5 Turn Cones	5 Turn Beams	12 Turn Cones	15 Turn Cones
50/36	$1.60	$1.85	$1.85	....	....
75/45	1.45	1.55	1.55	$1.75	$1.85
100/60	1.35	1.45	1.45	1.65	1.75
150/90	1.18	1.25	1.25	1.60	1.70

Nub-Lite (Short Nubbi)

Code	Den/Fil	2½ Turn Natural Cones	2½ Turn Cones*	5 Turn Natural Cones	5 Turn Cones*
1515	160/90	....	....	$1.45	$1.35
1519**	155/90	....	....	1.45	1.35
2008	200/120	....	....	1.06	.96
3002	315/180	$1.10	$1.00	....	....
4011	410/224	1.10	1.00	....	....
6001	600/360	1.08	.98	....	....
8001	860/450	1.08	.98	....	....

• Basic price for cones when dyed. Dyed Colors 30 and 35 cents above basic price. Prices based on 200 lb. dyed lots only. Prices for natural yarn skeins same as natural cone prices.

•• Code 1515 can be run in warp or filling.

CUPIONI Type B

Code	Den/Fil	2½ Turn Cones	5 Turn Cones
9610	50/30	....	$2.14
9650	70/45	$1.64	....
9660	100/60	1.48	....
1545	150/90	1.25	....
9720	200/120	1.20	....
9730	285/135	1.10	....
9792	450/225	1.10	....
9814	600/372	1.07	....
9837	940/372	.97	....

"Spun Dyed Cupracolor is spun 150, 285, and 940 deniers at 35¢ per pound extra. Cupracolor Black comes in all deniers."

STRATA SLUB

Code	Den/Fil	Turned Cones	Price
9747	275/225	3½	1.20
9798	450/372	2½	1.10
9823	600/372	2½	1.05
9847	960/372	2½	.97
9885	1290/372	1½	.95
9934	2680/744	1½	.95

"Spun Dyed Cupracolor is spun in 600 and 960 deniers at 35¢ per pound extra."

FLAIKONA

Code	Den/Fil	Turned Cones	Price
9669	150/148	2½	$1.35
9769	300/224	2½	1.25
9782	450/270	2½	1.05
9807	600/405	2½	1.05
9840	900/450	2½	1.00
9924	2000/744	2½	.95

"Spun Dyed Cupracolor Black 35¢ per pound extra."

Terms: Net 30 days, F. O. B. shipping point. Minimum freight allowed to consignee's nearest freight station east of the Mississippi River. To points west of the Mississippi River minimum freight allowed to Memphis, Tennessee. Goods after shipment shall be at buyer's risk. Merchandise transported in seller's own trucks or those of its affiliates is sold F. O. B. delivery point.

American Enka Corp.

Current Prices

Effective July 25, 1958

Standard Quality Yarns

Standard Quality Rayon Yarns

NATURAL

Den./Fil.	Luster	Turns	Weaving Cones	Beams	Skeins Long	Skeins Short	Cakes	Knitting Cones	Tubes
50/15	E	5 S						1.56	
50/20	B	2.5 S					1.45		
75/10	B	3 S&Z					.95		
75/18	E	4 S						1.07	
75/30	B	2.5,4S&Z	1.07	1.07	1.15	1.19	.95		
75/30	B	8 S	1.17		1.32	1.37		1.17	1.22
75/45	P,E	2.5, 4,5S&Z	1.07	1.07	1.15	1.19	.95	1.07	
75/60	B,P	3,4 Z	1.09				.97		
100/14	B	3 S&Z				1.03	.83		
100/40	B,E	12 S						1.22	
100/40	B,P,E	4,5 S&Z					.83	.91	
100/40	B	6 S	1.10		1.19	1.24	1.02		
100/40	B,P	2.5,4S&Z	.91	.91	1.00	1.03	.83		
100/60	B	4 S&Z					.83		
100/60	E	2.5 S	.93	.93			.85		
125/40	E	3 Z					.80	.83	
150/40	B,P,E	2.1,3S&Z	.76	.76	.85	.87	.72	.76	
150/40	B,E	5 S&Z	.84	.84	1.04	1.09	.80		
150/40	B,P,E	8 S&Z	.89	.89	1.09	1.14	.85		
150/90	E	2.1 S&Z	.77	.77			.73		.82
200/40	P	3 Z	.75	.75	.84	.86	.71	.75	
200/40	B	5 S				.95	.88		
250/60	P,E	2.4 Z			.83	.85		.74	
300/30	E	3 S	.75	.79					
300/50	B,E	3 S	.70	.70					
300/60,120	B,P,E	2.1 S&Z	.67	.67	.73	.75	.65	.67	
300/60	B	3.5 S	.67	.67	.73	.75	.65		
300/60	B	7 S	.80			.83			
300/40,120H.T.	B	2.5, 3,4S	.69	.69			.67		
450/80	B,E	3 S	.63	.65	.70	.72	.61		
600/80	B,E	3 S	.65	.67			.63		
600/120	B	3 S	.63	.65			.61		
900/120	B	3.4 S	.63	.65	.70	.72	.61		
900/120H.T.	B	3.6 S	.65	.65			.63		

B—Briglo P—Perlglo (Semi-Dull)
E—Englo (Dull) H.T.—High Tenacity

Jetspun® (Colored Yarns)

Den./Fil.	Tenacity	Turns	Weaving Cones	Beams	Colors
100/40	Regular	2.5S	$1.28	$1.28	All
150/40	Regular	2.1S	1.11	1.11	All
200/40	Regular	8.3S	1.22	1.22	All
300/120	Regular	2.1S	1.03	1.03	All
450/80	Regular	3.0S	.99	.99	All
300/40	High	3.4S	1.05	1.05	All
600/80	High	3.4S	1.01	1.01	All
900/120	High	3.4S	1.00	1.00	All

® Registered Trade Mark for American Enka Solution dyed rayon yarn.

Skyloft (Lofted Rayon Filament Yarns) Natural and Jetspun®

Denier	Denier per Filament	Twist	Cones or Tubes Natural	Cones or Tubes Black	Cones or Tubes Other Colors
1000	7.5	3.5S	$.79	$1.14	$1.14
2200	15	3.5S&Z	.67	.77	.84
2700	15	3.5S&Z	.62	.75	.82
4300	8	3.0S&Z	.64	.74	.81
5300	15	3.0S&Z	.65	.75	.82

American Viscose Corp.

Effective July 24, 1958

Graded Yarns

Denier	Filament	Type	Short Skeins	Long Skeins	Cones Tubes	Beams Spools	Cakes
		Regular Turns					
50	20	Bright & Dull	$	$1.59	$1.56	$1.56	$1.45
60	10	Bright	....	....	1.41	....	1.30
75	10-30	Bright	1.19	1.15	1.07	1.07	.95
75	30	Dull	....	....	1.07	1.07	.95
100	14-40	Bright	1.03	1.00	.91	.91	.83
100	60	Dull	....	....	.93	.93	.85
150	24-40	Bright	.87	.85	.76	.76	.72
150	40	Semi-Dull	.87	.85	.76	.76	.72
150	40	Dull	....	....	.76	.76	.72
150	90	Dull	....	....	.77	....	.73
200	10-44	Bright	.86	.84	.75	.75	.71
250	60	Semi-Dull & Dull	.85	.83	.74	.74	.71
300	15	Bright	....	.76	.72	.72	....
300	30	Dull Flat Filament	....	....	....	.79	....
300	44	Bright & Dull	.75	.73	.67	.67	.65
300	234	Dull	....	....	.77	....	.75
450	100	Bright	....	.70	.63	.65	.61
600	100	Bright & Dull	....	.70	.63	.65	.61
900	50-60-100-150	Bright	....	.70	.63	.65	.61
1200	75	Bright	....	.70	.63	.65	....
2700	150	Bright	....	.70	.63	.65	....
		Extra Turns Per Inch					
75	30	Bright 6-Turns	$1.37	$1.32	$1.17	$1.17	$ ....
100	40	Bright 6-Turns	1.24	1.19	1.10	1.10	1.02
150	40	Bright 6-Turns	1.09	1.04	.84	.84	.82
200	44	Bright 6-Turns	....	.95	.90	.90	....
300	15	Bright 5-Turns	....	....	.80	.80	....
300	44	Bright 4.3-Turns	....	....	.70	....	.68
300	44	Bright 6-Turns	.83	.81	.80	.80	.78
300	120	Rayflex 6-Turns	....	....	.87	.87	....
600	30	Bright 5-Turns	....	.78	.76	.76	.74
		Rayflex Yarns					
75	30	Rayflex	$	$	$1.15	$1.15	$1.06
100	40	Rayflex	....	....	1.00	1.00	.92
150	40-60	Rayflex	....	....	.79	.79	.75
200	75	Rayflex	....	....	.78	.78	.74
300	60-120	Rayflex	....	....	.69	.69	.67
450	120	Rayflex	....	....	.65	.65	.63
600	234	Rayflex	....	....	.65	.65	.63
900	350	Rayflex	....	.72	.65	.65	.63
		Thick & Thin Yarns					
150	40-90	Bright & Dull	$	$	$1.15	$	$ ....
200	75	Bright & Dull	....	....	1.05	....	....
300	120	Bright & Dull	....	....	.95	....	....
450	100	Bright & Dull	....	....	.89	....	....
490	120	Bright & Dull	....	....	.95	....	....
900	350	Dull	....	....	1.00	....	....
920	120	Bright & Dull	....	....	1.00	....	....

Colorspun Yarns

Denier	Type	Cones/Tubes Beams/Spools
75	Regular Strength	$1.60
100	Regular Strength	1.28
150	Regular Strength	1.11
200	Regular Strength	1.08
300	Regular Strength	1.03
450	Regular Strength	.99
600	Regular Strength	.99
900	Regular Strength	.99
300	High Strength	1.05
900	High Strength	1.00
300	Regular Strength 5-Turns	1.13

Avicron Yarns

Denier	Filament		Cones/Tubes Beams/Spools
1800	100-200	Singles & 2 Ply	$ .68
2700	150-300-980	Singles & 2 Ply	.65

Viscose Filament Yarns

The following material deposit charges are required:

Metal Section Beams	$170.00 each
Metal Section Beam Racks	75.00 each
Metal Tricot Spools—14" flange	30.00 each
21" flange	60.00 each
32" flange	150.00 each
Metal Tricot Spool Racks—14" flange	135.00 each
21" flange	100.00 each
32" flange	75.00 each
Wooden Tricot Spool Crates	20.00 each
Cloth Cake Covers	.05 each

Same to be credited upon return in good condition—freight collect.

Celanese Corp. of America

Current Prices

Effective July 24, 1958

Viscose Rayon Filament Yarn Prices Bright and Dull

Denier/Fil./Twist		Beams	Cones	Cakes
75/30/3			1.03	.91
100/40/2Z		.90		
100/40/3			.89	.81
100/40/5			.95	.85
100/60/2Z			.89	
100/60/3			.91	.83
125/40/2Z		.86		
125/40/3			.87	.78
150/40/0	NS		.68½	
150/40/2Z	NS	.75		
150/40/3			.73½	.70
150/40/5			.84	.82
150/40/8			.90	.88
150/90/0	NS		.71½	
250/60/0			.68	
250/60/3			.74	.71
300/50/0	NS		.64	
300/50/2Z	NS	.66		
300/50/3			.64½	.63
450/120/0	NS		.61	

Terms: Net 30 days. Shipments prepaid to any destination in U.S.A. east of the Mississippi River. Shipments west of the Mississippi will be made on a collect freight basis and allowance will be made for the lowest transportation cost to the point of river crossing.

Prices subject to change without notice.

All previous prices withdrawn.

* No transportation allowed (F.O.B. shipping point).

Prices on unlisted items can be obtained upon request.

Orders are subject to conditions of sale appearing on our acknowledgments of orders.

E. I. du Pont de Nemours & Co.

Textile Fibers Dept.

Current Prices

Effective with orders July 25, 1958

Bright and Dull

Den.	Fil.	Turns/Inch Up to		Cones (A) Beams	Cones (A) Tubes	Cones (A) Cakes
40	20	3	Textile "Cordora"*		$1.90	$1.85
50	20	3			1.63	
50	20	3	Textile "Cordura"		1.65	1.60
50	35	3	Textile "Cordura"		1.70	
75	10	3	Bright			.95
75	30	3		1.07	1.07	.95
100	15	3	Bright			.83
100	40	3	Bright	.91	.91	.83
100	60	3	Dull		.93	.85
125	50	3		.89	.89	.80
150	40	3		.76	.76	.72
150	60	3	Bright	.76	.76	
150	60	3	Textile "Cordura"		.815	.785
150	90	3	Dull		.77	
150	100	3	Dull		.77	
300	50	2.5		.67	.67	.65
300	120	3	Textile "Cordura"	.68	.68	.66
450	72	3		.65	.63	.61
600	96	3	Bright	.65	.63	.61
600	240	3	Textile "Cordura"	.66	.64	
900	50	3	Bright	.65	.63	.61
900	144	3	Bright	.65	.63	.61
1165	480	3	Textile "Cordura"	.66	.64	.62
1800	100	3	Bright		.63	
2700	150	3	Bright	.65	.63	
			Thick and Thin			
100	40	3	#7 Bright		1.38	
150	90	3	#7 Bright		1.05	
200	80	3	#7 Bright		1.05	
450	100	3	#7 Bright		.89	
1100	240	3	#60 Bright		1.00	
2200	480	3	#60 Bright		.95	
			Monofils			
150	1	3	Bright	1.35	1.35	
300	1	3	Bright	1.15	1.10	
600	1	3	Bright		1.00	
			Plush			
300	30	3	Dull	.79	.75	

(A) 2¢/lb. additional for cones less than 3#.

Terms: Net 30 days.

Domestic Freight Terms are F.O.B. shipping point, freight prepaid our route to points east of the Mississippi River within the continental limits of the United States, for points west of the Mississippi River freight allowed to the Mississippi River crossing nearest purchaser's mill if shipped overland, or port of exit of purchaser's choice east of Mississippi River.

* "CORDURA" and "SUPER CORDURA" are Du Pont's registered trade-marks for its high tenacity rayon yarn.

Industrial Rayon Corp.

Effective July 29, 1958

Continuous Process Textile Yarns

Denier	Filament	Turns per In.	Type	2-8 Lb Cones	4-14 Lb Cones and Tubes	Beams	22 Lb Tubes
150	40	2.5 "S"	Bright	.76		.76	
150	40	2.5 "S"	Luster #4	.77		.77	
150	40	2.5 "S"	Bright Intermediate strength	.77			
200	20	2.5 "S"	Bright	.75			
300	44	2.5 "S"	Bright	.67		.67	
450	60	2.0 "S"	Bright		.63	.63	

TEXTILE NEWS BRIEFS

Receives AATCC Award

A technical paper, "Elimination of Static Electricity from Textiles by Chemical Finishing," was selected by the American Association of Textile Chemists and Colorists to receive the 1958 annual award of the AATCC's publication "American Dyestuff Reporter." The award was presented to the three co-authors of the paper, Drs. Tesoro and Valko, and W. Ginilewicz, at the AATCC's annual convention. *For copies of the paper write the editors.*

Barnhardt Named Agent

Reynolds Metals Co. has appointed Barnhardt Brothers Co. selling agent for Reynolds Reymet aluminum yarn in 13 southeastern states. Barnhardt will handle such sales in Virginia, South and North Carolina, Georgia, Florida, Tennessee, Kentucky, Mississippi, Alabama, Arkansas, Louisiana, Missouri and Texas. The Reymet line is available in 42 colors.

Hartford-Greenville Unit

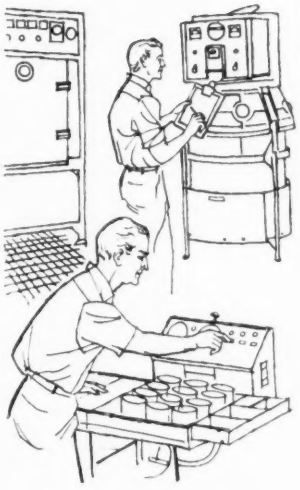
Hartford-Greenville Division is the new name, as of January 1, of the manufacturing plant at Greenville, S. C., which produces Hartford spindles and textile machine parts. Originally, the plant was a branch of the Hartford Machine Screw Co., a division of Standard Screw Co. The Greenville plant is now a complete unit of the parent company. The address is P.O. Box 1776, Greenville, S. C.

New PTI Building

Groundbreaking ceremonies for the $650,000 student union building on the campus of the Philadelphia Textile Institute, Germantown, Pa., were held recently. The new building, to be called Althouse Hall in honor of Dr. C. Scott Althouse of Reading, Pa., a 1900 graduate of the college, will provide auditorium and gymnasium facilities, a cafeteria and eight student activity rooms.

New Sales Office

The northern sales office of Arnold, Hoffman and Co., Inc., manufacturer of organic chemicals, has been relocated in the company's home office at 55 Canal St., Providence, R. I. Arthur C. Merrill has assumed the post of office manager. Arnold, Hoffman is maintaining warehouse stocks at Desmond's Warehouse, Paterson, N. J.



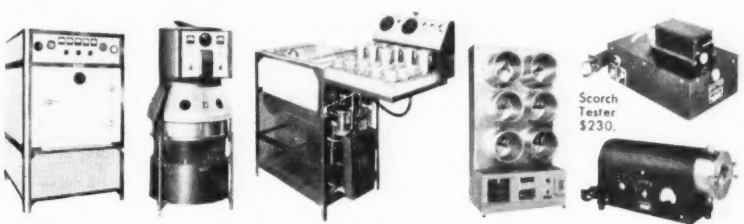
Keeping pace with new fiber development...

TESTING TELLS THE TALE with Atlas-Ometers

The introduction of so many synthetic fibers since World War II, while revolutionizing the textile industry, has presented problems concerning the color fastness, weathering properties, detergent reaction, and washing and wearing of these new fibers.

Controlled, accelerated and exactly duplicated tests with ATLAS-OMETERS will give you the answers—accurately and quickly—to new fiber vagaries. You will find that *one* ATLAS test is worth a *thousand* guesses.

Write for bulletins on ATLAS-OMETERS



Weather-Ometer® $2755 up.

Fade-Ometer® $1350 up. Complete with supplies.

Launder-Ometer® $875 complete with accessories and supplies.

Random Tumble Pilling Tester $485 to $890.

Accelerotor® $435.

ATLAS ELECTRIC DEVICES CO., 4114 N. Ravenswood Ave., Chicago 13, Illinois, U.S.A.

Sales representatives in principal cities throughout the world

600	90	1.5 "S"	Bright	.63	.63	.63
900	50	2.0 "S"	Bright	.63	.63	.63
900	150	1.5 "S"	Bright	.63	.63	.63
1100	480	2.0 "Z"	Bright extra strong	.65	.65	.65

Lustre ⇄4 is semi-dull.

Terms: Net 30 days f.o.b. point of shipment; title to pass to buyer on delivery of goods to carrier. Domestic transportation charges prepaid with transportation allowed at lowest published rate to all points east of the Mississippi River.

Prices are subject to change without notice.

Strawn Yarns

Denier	Filament	Turns Per In.	Type	4.4 lb. Cones
450	1	0	Bright and Dull	1.00
450	1	2	Bright and Dull	1.00
1250	1	0	Bright and Dull	1.00
1250	1	2	Bright and Dull	1.00

Tubes— 5¢ per pound over cone prices.

Skeins—10¢ per pound over cone prices.

Terms: Net 30 days f.o.b. point of shipment; title to pass to buyer on delivery of goods to carrier. Domestic transportation charges prepaid with transportation allowed at lowest published rate to all points east of the Mississippi River.

Prices are subject to change without notice.

North American Rayon Corp.

Current Prices

Prices Effective July 25, 1958

First Quality Yarns	Den/Fil	Twist	Cones: Knitting*	Cones: No Twist Knitting Cones	Cones: Weaving Cones Beams, Tubes**	Velvet Beams & Cones	Untreated Cakes
	75/30	3.5			1.07	1.07	.95
	75/30	7			1.20	1.20	
	75/30	12			1.28	1.28	
Normal	75/30	15			1.30	1.30	
Strength Yarns	75/30	20			1.33	1.33	
NARCO	100/40/60	3.5			.91	.91	.83
	100/40	12			1.15	1.15	
	125/52/60	3			.89	.89	.80
	150/42	0		.68½			
	150/42/60	3	.74½		.76	.78	.72
	300/75	0		.65			
	300/75	3	.67		.67		.65
	900/46	2.5	.63		.63		
	1800/92	2.5	.63		.63		

* Oiled Cones $.01 Per Pound extra for Graded Yarns only.

** 1 lb. tubes $.02 Per Pound extra for Graded Yarns only.

Terms: Net 30 days, F.O.B. shipping point, minimum freight allowed to consignee's nearest freight station east of the Mississippi River. To points west of the Mississippi River minimum freight to Memphis, Tennessee allowed. Goods after shipment shall be at buyer's risk. Merchandise transported in seller's own trucks or those of its affiliates is sold F.O.B. delivery point.

Prices subject to change without notice.

CELLULOSIC HIGH TENACITY YARN and FABRIC

American Enka Corp.

Effective December 19, 1958

Tempra (High Tenacity)

Denier	Elongation	Beams & Cones
1100/480	Low	.59
1230/480	High	.59
1650/720	Low	.55
1820/720	High	.55
2200/960	High & Low	.54

Enka II

*1100/720	Low	.66
*1650/1100	Low	.60
2200/960	Low & High	.59

Terms: Net 30 days, f.o.b. Enka, North Carolina, or Lowland, Tennessee; minimum freight allowed to first destination east of the Mississippi River.

* Tyrex certified viscose yarn.

American Viscose Corp.

Effective Nov. 1, 1956

Revised May 29, 1958

Super "Rayflex"

Denier	Filament	Twist	Beams	Cones-Tubes*
1100	980	0	.63	.63
1100	980	Z	.63	—
1650	980	0	.58	.58
1650	980	Z	.58	—
1780	980	0-Z	—	.58
2200	980	0	.57	.57

Tire Yarn

1100	490	Z	.59	—
1650	980	0	.55	.55
1650	980	Z	.55	—
2200	980	0	.54	.54

High Strength

1150	490	Z	.59	.59
1230	490	Z	.59	.59
1650	980	Z	.55	.55
1875	980	Z	.55	.55
2200	980	Z	.54	.54

* When tube put up—10⇄ spinning tube.

First quality yarns are sold "Not Guaranteed for Dyeing".

Tire Fabric

	Tire Yarn Fabric	Super "Rayflex" Fabric
2200/980/2	.625	.655
†1100/490/2	$.71	$.75

Above prices based on 80% minimum Carcass, 15% maximum Top Ply, 5% maximum Breaker.

1650/980/2

*Production Factor

525-Open	Carcass	$.635	$.665
300-490	Top Ply	.645	.675
115-275**	Breaker	.67	.70

* Determined by dividing total ends by picks.

** Orders limited to 5% of total 1650 Fabric booked for any given period.

† Revised.

Cord on cones in regular Tire Yarn twists same as fabric prices.

Other twist combinations—prices quoted on request.

When supplied, yarns and cords in special packages take premiums indicated.

10.5 oz. Wardwell tubes	.05
1.5 lb. Regular Braider tubes	.035
Adhesive Dipped yarn	.05

The following deposit charges are made on invoices.

Beams	$55.00 each
Crates (Metal)	75.00 each
Fabric Shell Rolls	3.50 each

Same to be credited upon return in good condition—freight collect.

Terms: Net 30 days.

Celanese Corporation of America

Effective December 27, 1955

Supersedes September 12, 1955

Fortisan Yarn Prices

Denier	Packages	Natural	Black
30/2.5/40	2 lb. Cones	$3.00 lb.	$3.35 lb.
60/2.5/80	4 " "	2.40 "	2.75 "
90/2.5/120	4 " "	2.25 "	2.60 "
120/2.5/160	4 " "	2.05 "	2.40 "
150/2.5/180	4 " "	1.95 "	2.30 "
270/2.5/360	4 " "	1.85 "	2.20 "
300/2.5/360	4 " "	1.85 "	2.20 "
60/2.5/80 Olive Green—Spun Dyed—OG106		4 lb. Cones	3.50 lb.

Terms: Net 30 days. Shipments prepaid to any destination in U.S.A. east of the Mississippi River. Shipments west of the Mississippi will be made on a collect freight basis and allowance will be made for the lowest transportation cost to the point of river crossing.

Prices subject to change without notice.

All previous prices withdrawn.

* No transportation allowed (F.O.B. shipping point).

Prices on unlisted items can be obtained upon request.

Orders are subject to conditions of sale appearing on our acknowledgments of orders.

Fortisan-36 Rayon Yarn Bright

Denier and Filament	Twist	4⇄ cones	8⇄ cones	Tubes	Beams
270/280	0.8Z	$2.30			
300/280	0.8Z	$2.05			
300/280	3Z	$2.20			
400/400	0.8Z	$1.75			$1.70
400/400	0			$1.75	
800/800	0.8Z	$1.25	$1.25		$1.20
800/800	3Z	$1.40			
800/800	0			$1.25	
1600/1600	0.8Z	$1.15	$1.15		$1.10
1600/1600	2½Z	$1.30			
1600/1600	0			$1.15	

Terms: Net 30 days. Shipments prepaid to any destination in U.S.A. east of the Mississippi River. Shipments west of the Mississippi will be made on a collect freight basis and allowance will be made for the lowest transportation cost to the point of river crossing.

Prices subject to change without notice.

All previous prices withdrawn.

* No transportation allowed (F.O.B. shipping point).

Prices on unlisted items can be obtained upon request.

Orders are subject to conditions of sale appearing on our acknowledgments of orders.

E. I. du Pont de Nemours & Co.

Textile Fibers Dept. Current Prices

Effective with orders February 26, 1959

"Super Cordura"*

Den Fil	Turns/in	All Packages
1100-720	2	$.66
1200-720	2	.66
1530-960	2	.63
1600-960	2	.60
1650-1100	2	.60
1800-1100	2	.60
2200-1440	2	.59
2400-1440	2	.59

Terms: Net 30 days.

Domestic Freight Terms are F.O.B. shipping point, freight prepaid our route to points east of the Mississippi River within the continental limits of the United States, for points west of the Mississippi River freight allowed to the Mississippi River crossing nearest purchaser's mill if shipped overland, or port of exit of purchaser's choice east of Mississippi River.

* "CORDURA" and "SUPER CORDURA" are DuPont's registered trade-marks for its high tenacity rayon yarn.

Industrial Rayon Corporation

Effective November 1, 1956

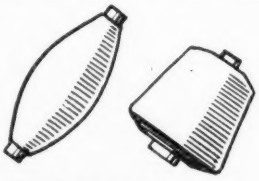
Unbleached Bright High Tenacity Yarns

SINGLE END BEAMS AND CONES:

Den.	Fil.	Turns Per In.	4.4 Lb. Cones	Beams	2.2 Lb. Tubes	4.4 Lb. Tubes
1100	480	1.5 "Z"	.59	.59	.59	.59
1650	720	1.5 "Z"	.55		.55	.55
2200	1000	1.5 "Z"	.54	.54	.54	.54
3300	1440	1.5 "Z"	.54	.54	.54	.54
4400	2000	1.5 "Z"	.54	.54	.54	.54

DYERS
and
THROWSTERS
OVER 35 YEARS
EXPERIENCE

HOFFNER
RAYON CO.
THE COMPLETE PACKAGE



THROWING
DYEING
PACKAGING

GENERAL OFFICES
General Offices at Belgrade and Ontario Streets, Philadelphia 34, Pennsylvania. Plants at Philadelphia and Quakertown, Pennsylvania.

SALES REPRESENTATIVES
Shannonhouse & Wetzell
Johnston Bldg. Charlotte, N. C.
The Tillinghast-Stiles Co.
Providence, R. I. Chicago, Ill.
R. C. Osborne & Co.
Broad St. & Allegheny Ave.
Phila. 32, Pa.
Carl L. Miller
808 First Nat'l Bank Bldg., Utica, N. Y.

New Color Center

Interchemical Corp. has established a central headquarters for basic research, consultation and information in the field of color. F. L. Wurzburg, Jr., is director of the center located in Interchemical's laboratories at 432 W. 45 St., New York, where existing color facilities have been renovated and improved for the unit.

Epstein Opens Office

M. P. Epstein who recently retired as vice president in charge of marketing at Industrial Rayon Corp., has opened an office at 500 Fifth Avenue where he plans to carry on a consulting business. In his new business, Epstein expects to be concerned principally with textiles, fibers and related industries.

Indian Head Program

Plans for the introduction of new fabrics and prints and the promotion of both finished fabrics and sheets during 1959 were outlined at a recent sales meeting of the Finished Goods Division of Indian Head Mills, Inc.

John Hilldring

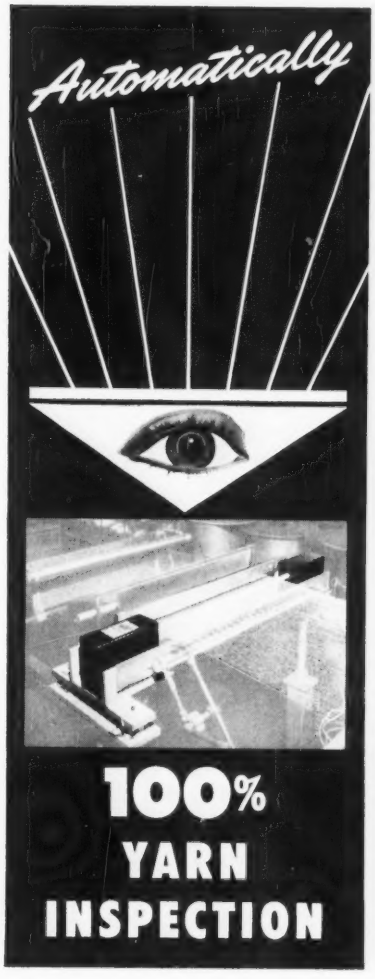
P. M. Dinkins

John Hilldring has been elected chairman of the board of General Aniline & Film Corp. and **Philip M. Dinkias** has become president.

D. C. Smith

D. Crawford Smith has been appointed product sales manager of the rayon staple department of American Enka Corp., succeeding **William B. Shepard** who has resigned.

Dr. Firmin P. Reed has been elected executive vice president of Arnold, Hoffman & Co. **William B. Woodall, Jr.** has joined the company's sales staff serving the Atlanta area.



...with the Lindly
Automatic Yarn Inspector

Take **all** the guesswork out of yarn inspection with the new standard of yarn quality—THE LINDLY COUNT.

The Lindly Automatic Yarn Inspector counts **every** fault...provides a stop motion, set to **your** tolerances. You determine quality, measure it in terms of THE LINDLY COUNT.

Lindly Automatics **pay** for themselves in a short time, go on adding to **your** profits for years.

Inquire about the family of Lindly Automatics, built to cut your costs, boost your quality.

It Pays to Know the Lindly Count

LINDLY & COMPANY, INC.
248 HERRICKS ROAD
MINEOLA, NEW YORK

"Above Prices apply to Type 100. Type 200 Tyron Prices are 3¢ more."

Terms: Net 30 days f.o.b. point of shipment; title to pass to buyer on delivery of goods to carrier. Domestic transportation charges allowed at lowest published rate to all points east of the Mississippi River.

Prices are subject to change without notice.

Type 400 is only available in 1100/720/1.5 "Z" at a price of 63¢ per pound on beams and cones.

North American Rayon Corporation

Super Super High Strength Continuous Yarn Type 630		Cones	Beams
1100/720	2.5Z	.66	.66
1650/720	2.0Z	.60	.60
Tire Cord Fabrics			
Super High Strength Type 550			Rolls
1650/720			.68½
Super Super High Strength Type 630			
1100/720			.78
1650/720			.68½

* Oiled Cones $.01 per pound extra for Graded Yarns only.

** 1 lb. Tubes $.02 per pound extra for Graded Yarns only.

Terms: Net 30 days, f.o.b. shipping point. Minimum freight allowed to consignee's nearest freight station East of the Mississippi River. To points West of the Mississippi River minimum freight to Memphis, Tenn. allowed. Goods after shipment shall be at buyer's risk. Merchandise transported in seller's own trucks or those of its affiliates is sold f.o.b. delivery point.

CELLULOSIC STAPLE & TOW

ACETATE

Celanese Corp. of America

Current Prices

Effective March 17, 1958

(Most Deniers Available in Bright or Dull Luster)

Staple

Celanese Acetate Staple	
2, 3, 5.5, 8, 12 & 17 Denier (Regular Crimp, Type HC, Type D)	$.36
35 Denier	.38
50 Denier	.40
Type F—5.5, 8, 12, 17 Denier	.35
Type K—(Available under Celanese License Agreement)	.39
⅝" to ⅞" length (All Deniers)	.03 (Premium)
35 Denier Flat Filament Acetate	.40
Non-Textile Acetate Fibers	.28*

Tow (Celatow)

2, 3, 5.5, 8, 12 & 17 Denier	$.37
35 Denier	.40
50 Denier	.42

Terms: Net 30 days. Transportation prepaid or allowed to any destination in U.S.A. east of Mississippi River. Transportation prepaid to any U.S.A. destination west of Mississippi River, but charge is made for the portion of transportation from river crossing nearest customer's location.

Prices subject to change without notice.

All previous prices withdrawn.

* No transportation allowed (F.O.B. shipping point.)

Note: Prices on unlisted items can be obtained upon request.

Orders are subject to conditions of sale appearing on our acknowledgments of orders.

Celanese Corp. of America

Current Prices

Effective March 17, 1958

(Most Deniers Available in Bright or Dull Luster)

Arnel Triacetate Staple and Tow

Arnel Triacetate Staple	**Bright & Dull**
2.5 Individual Denier	$.55
5.0 Individual Denier	.55
Arnel Triacetate Tow	
2.5 Individual Denier 114,000 Total Denier	$.60
5.0 Individual Denier 90,000 Total Denier or 180,000 Total Denier	.60

Packaged on Ball Warps

Terms: Net 30 days. Transportation prepaid or allowed to any destination in U.S.A. east of Mississippi River. Transportation prepaid to any U.S.A. destination west of Mississippi River, but charge is made for the portion of transportation from river crossing nearest customer's location.

Prices subject to change without notice.

All previous prices withdrawn.

Note: Prices on unlisted items can be obtained upon request.

Orders are subject to conditions of sale appearing on our acknowledgments of orders.

CROSS-LINKED

Courtaulds (Alabama) Inc.

Effective July 25, 1958

Corval

Man-made, cross-linked, cellulosic staple, Bright and Dull, 1½, 3 and 5½ denier — $.40 per lb.

Topel

Man-made, cross-linked, cellulosic staple, Bright and Dull, 1½, 3 and 5½ denier — $.34 per lb.

Terms: Net 30 days f.o.b. LeMoyne, Alabama; Minimum transportation allowed to points in U.S.A. east of Mississippi River.

RAYON

American Viscose Corp.

Current Prices

Rayon Staple

	Bright and Dull
Regular	$ .31
"Viscose 22"	.31
Extra Strength 1.0 Denier	.34
"Viscose 32A"	.36
"Avisco XL" 1.0 & 1.5 Deniers	.40
"Avisco Crimped" 1.25 Denier	.34
3.0 & 5.5 Deniers	.32
8.0 & 15.0 Deniers	.34
"Avisco Super L" 8.0, 15.0 & 22.0 Deniers	.35
Short Staple Blend	.33

Rayon Tow

Grouped Continuous Filaments (200,000 Total Denier)	
1.5, 3.0 & 5.5 Denier Per Filament	.33
9.0 Denier Per Filament	.35

Terms: Net 30 days.

American Enka Corp.

Current Prices Effective 1/1/58

Rayon Staple

	Brt.	Dull
Regular		
1.5 and 3 denier	$ .31	$ .31
Crimped		
8 denier	.34	
15 denier	.34	.34

Celanese Corp. of America

Current Prices

Effective Dec. 3, 1957

Rayon Tow

	Bright & Dull
1.5, 3, 5.5 D.P.F. Total denier 200,000	.33
8 D.P.F. Total denier 207,000	.35

Terms: Net 30 days. Transportation prepaid or allowed to any destination in U.S.A. East of Mississippi River. Transportation prepaid to any U.S.A. destination West of Mississippi River, but charge is made for the portion of transportation from river crossing nearest customer's location.

Prices subject to change without notice.

All previous prices withdrawn.

Note: Prices on unlisted items can be obtained upon request.

Orders are subject to conditions of sale appearing on our Acknowledgments of Orders.

Courtaulds (Alabama) Inc.

Effective August 8, 1958

Rayon Staple

	Bright	Dull
1½ and 3 denier Available in 1⅛", 1-9/16" and 2".	$.31	$.31

Crimped Rayon Staple

3 and 5½ denier Available in 1-9/16" and 3".	$.32	$.32
3 denier Available in 2".		.32

"Coloray" Spun Dyed Rayon Staple

	1½ Den. 1-9/16"	3 Den. 2"	Price per Lb.
	(Code numbers for color and denier)		
Black	1404	1419	37¢
Tan	8004	8019	39¢
Medium Brown	8804	8819	39¢
Silver Grey	1004	1019	39¢
Mocha	7704	7719	39¢
Spicenut	7804	7819	39¢
Dark Brown	8604	8619	40¢
Aqua	4704	4719	40¢
Rose	5804	5819	40¢
Dawn Pink	5904	5919	40¢
Ecru	7904	7919	40¢
Slate Grey	0804	0819	43¢
Light Blue	4004	4019	44¢
Sulphur	2004	2019	44¢
Nugget	2304	2319	44¢
Apple Green	5104	5119	45¢
Sage	5304	5319	45¢
Crystal Blue	3904	3919	45¢
Peacock Blue	4604	4619	46¢
Medium Blue	4204	4219	48¢
Dark Blue	4404	4419	49¢
Hunter Green	5404	5419	49¢
Indian Yellow	2504	2519	49¢
Pink	6004	6019	50¢
Turquoise	4804	4819	50¢
Malachite Green	5204	5219	51¢
Red	7004	7019	56¢

(In addition to the above, Black is also available in:
1½ den. 1⅛" (1401) 3 den. 1-9/16" (1416)
3 den. 1⅛" (1413) 5½ den. 3" (1429)

Terms: Net 30 days f.o.b. LeMoyne, Alabama; Minimum transportation allowed to points in U.S.A. east of Mississippi River.

20 YEARS OF EXPERIENCE

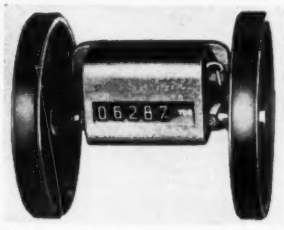
and service in

"QUICK RESET" COUNTERS

TRUMETER

"QUICK RESET"

REVOLUTION OR STROKE COUNTERS



PRICE: 4 DIGITS **$21.50**
(Counter only) 5 DIGITS **$23.00**
F.O.B. NEW YORK
PRICE FOR WHEELS DEPENDING ON SIZE AND TYPE

"QUICK RESET"

PREDETERMINED COUNTERS—ONE FLICK TO THE LEVER FOR REPEAT RUN—UNTIL NUMBERS ARE CHANGED

PRICE: 4 DIGITS **$39.75**
5 DIGITS **$42.50**
F.O.B. NEW YORK

"QUICK RESET"

SLOPING FRONT MODEL REVOLUTION OR STROKE COUNTER

PRICE: 4 DIGITS **$23.25**
5 DIGITS **$24.75**
F.O.B. NEW YORK
PRICE FOR WHEELS DEPENDING ON SIZE AND TYPE

WRITE FOR CATALOG & PARTICULARS

TRUMETER COMPANY

38 W. 32 ST. NEW YORK 1, N. Y.

Represented in all Southern Textile districts, Pennsylvania, New Jersey and the New England States.

James A. Stevenson has been elected president of Bradford Dyeing Association, succeeding **James Ewing**, and **Ernest J. Chornyei** has become executive vice president of the company. Further appointments include **Ralph C. Tees**, treasurer, succeeding **H. A. R. Myers**, **H. G. D. Neill**, assistant secretary and purchasing officer, and **G. A. Leonard**, chief accountant.

W. B. Shepard

William B. Shepard has been appointed to the newly-created post of director of marketing for Hartford Rayon Co.

George L. Staff and **Norman Duberstein** have been elected vice presidents of sales at Pacific Mills, and **Thomas W. Shoesmith** and **M. E. Sibley** have become vice presidents of manufacturing.

Joseph E. Stiassni has been named a vice president of Forstmann, Inc. and has been assigned to the women's wear division.

B. J. Zalkind

Benjamin J. Zalkind has joined the recently established worsted spinning machinery division of Roberts Company. He had formerly been connected with National Worsted Mills as operations manager.

William W. Webster has joined the textile sales staff of Industrial Rayon Corp., for the Pennsylvania area.

Fred A. Weymouth has become a vice president of Interchemical Corp.

John D. Shafer has been appointed plant manager of Revonah Spinning Mills and its subsidiary, Malcolm Spinning Co. and **James Millar** has become director of research and development.

LUBRIPLATE IS THE IDEAL LUBRICANT

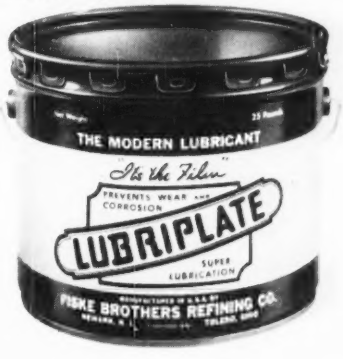
—say leading Textile Manufacturers

LUBRIPLATE Lubricants have won acceptance in the textile industry because even with speeds up to 25,000 R.P.M., they have exceedingly long life and do not break down. LUBRIPLATE Lubricants range from the lightest oils to the heaviest greases to meet every requirement of the textile industry.

REGARDLESS OF THE SIZE AND TYPE OF YOUR MACHINERY, LUBRIPLATE GREASE AND FLUID TYPE LUBRICANTS WILL IMPROVE ITS OPERATION AND REDUCE MAINTENANCE COSTS.

LUBRIPLATE is available in grease and fluid densities for every purpose . . . LUBRIPLATE H. D. S. MOTOR OIL meets today's exacting requirements for gasoline and diesel engines.

For nearest LUBRIPLATE distributor see Classified Telephone Directory. Send for free "LUBRIPLATE DATA BOOK" . . . a valuable treatise on lubrication. Write LUBRIPLATE DIVISION, Fiske Brothers Refining Co., Newark 5, N. J. or Toledo 5, Ohio.



The Hartford Rayon Co.

Div. Bigelow-Sanford Carpet Co., Inc.

Rayon Staple

Effective November 3, 1958

REGULAR

1.5 denier Bright
1 9/16", 2" ..... .31

VISCALON 66 (Crimped)

8 denier 3" Bright ..... .34
15 denier 3" Bright ..... .34
15 denier 3" Dull ..... .34

"KOLORBON"—Solution Dyed Rayon Staple—3" and 6"

	8 Denier Bright	15 Denier Dull	15 Denier Bright
Cloud Grey	45¢	45¢	
Sandalwood	45¢	45¢	
Nutria	45¢	45¢	
Sea Green	45¢	45¢	
Mint Green	45¢	45¢	
Champagne	45¢	45¢	
Midnight Black	45¢		45¢
Gold	48¢	48¢	
Turquoise	45¢	45¢	
Melon	48¢	48¢	
Capri Blue	45¢	45¢	
Charcoal Grey	45¢	45¢	
Coco	46¢	46¢	
Sable	47¢		47¢
Tangerine	65¢		65¢
Chinese Red	65¢		65¢
Larkspur Blue	45¢	45¢	
Royal Blue	65¢		65¢
Lemon Peel	54¢	54¢	54¢
Kelly Green	54¢	54¢	54¢
Bitter Green	65¢		65¢

Terms: Net 30 days. Prices are quoted f.o.b. shipping point, lowest cost of transportation allowed, or prepaid. To points West of the Mississippi, lowest cost of transportation allowed to the Mississippi River crossing.

North American Rayon Corporation

Current Prices

Rayon Staple

Super High Tenacity	Bright
No. 1 (Unshrunk)	
1, 1.5 & 3 deniers	.40
No. 2 (Preshrunk)	
1, 1.5 & 3 deniers	.40

Rayon Tow

Super High Tenacity	
2200 denier, 1.0 and 1.5 D/F	57.5
4400 denier, 1.0 and 1.5 D/F	47.5

NON CELLULOSIC YARN

NYLON

Allied Chemical Corporation

Caprolan®†

Effective May 20, 1958

Denier	Filament	Turn/In.	Twist	Type**	Package	1st Grade Price/Lb.
200	16	1½	Z	B	Cone	$1.49
560	32	1	Z	HB	Aluminum Tube	$1.39
840	136	½	Z	HBT	Aluminum Tube	1.20
840	136	½	Z	HBT	Beams	1.20
Heavy Yarn						
2100	408	0	O	HB	Paper Tube*	$1.18
2100	112	0	O	HB	Paper Tube*	1.20
2500	408	0	O	HB	Paper Tube*	1.18
3360	544	0	O	HB	Paper Tube*	1.17
4200	680	0	O	HB	Paper Tube*	1.17
4200	224	0	O	HB	Paper Tube*	1.19
5000	816	0	O	HB	Paper Tube*	1.17
5000	280	0	O	HB	Paper Tube*	1.19
5800	952	0	O	HB	Paper Tube*	1.17
7500	1224	0	O	HB	Paper Tube*	1.16
10000	1632	0	O	HB	Paper Tube*	1.16
15000	2448	0	O	HB	Paper Tube*	1.16

Terms—Net 30 days.
Prices subject to change without notice.
All prices quoted F.O.B. Shipping Point.
Following are invoiced as a separate item.
Bobbins—45 cents each.
Aluminum Tubes—40 cents each.
Beams—$220.00 each.
Cradles for Beams—$53.00.
* Paper Tubes non-returnable, no charge.
** Type is used to describe luster and tenacity

B—Bright.
H—High Tenacity.
T—Heat Stabilized.

Lowest freight cost prepaid or allowed east of Mississippi River, for points west of the Mississippi River freight allowed to the Mississippi River crossing nearest purchaser's mill if shipped overland, or port of exit of purchaser's choice east of Mississippi River.

† Allied Chemical's polyamide fiber.

American Enka Corporation

Enka Nylon Yarn Prices

Effective August 19, 1958

Den/Fil	Twist	Luster	Type	Tenacity	Pkg.	Net Wt. Pkg.	Price/Pound Std.	Sub.
15 monofil	0.5Z	Semi-dull	9506	Normal	Pirn	1 lb.	$5.25	$5.00
15 monofil	0.5Z	Semi-dull	9506	Normal	Pirn	2 lb.	5.25	5.00
15 monofil	0.5Z	Semi-dull	9506	Normal	Beam		5.36	
15 monofil	0.5Z	Dull	9514	Normal	Pirn	1 lb.	5.30	5.05
15 monofil	0.5Z	Dull	9514	Normal	Pirn	2 lb.	5.30	5.05
15 monofil	0.5Z	Dull	9514	Normal	Beam		5.41	
15/2	0.5Z	Semi-dull	9518	Normal	Pirn	1 lb.	7.37	6.70
18/2	0.5Z	Semi-dull	....	Normal	Pirn	....	6.65	6.10
20 monofil	0.5Z	Semi-dull	9524	Normal	Pirn	1 lb.	4.95	4.50
20/2	0.5Z	Semi-dull	9478	Normal	Pirn	1 lb.	5.55	5.05
30/4	0.5Z	Semi-dull	....	Normal	Pirn	....	2.62	2.42
30/6	0.5Z	Semi-dull	9466	Normal	Pirn	2 lb.	2.36	2.21
40/8	0.5Z	Semi-dull	9448	Normal	Pirn	2 lb.	2.01	1.91
40/8	0.5Z	Semi-dull	9452	Normal	Pirn	2 lb.	2.01	1.91
40/8	0.5Z	Semi-dull	9448	Normal	Beam	....	2.11	....
40/10	0.5Z	Dull	9502	Normal	Pirn	2 lb.	2.06	1.96
40/10	0.5Z	Dull	9502	Normal	Beam	....	2.16	....
50/13	0.5Z	Semi-dull	9528	Normal	Pirn	2 lb.	1.91	1.76
70/32	0.5Z	Semi-dull	9622	Normal	Pirn	2 lb.	1.71	1.66
100/32	0.5Z	Semi-dull	9652	Normal	Pirn	2 lb.	1.65	1.60
200/16	0.6Z	Bright	9826	Normal	Cone	4 lb.	1.49	1.44
200/16	0.5Z	Bright	9826	Normal	Beam	....	1.54	....
200/34	0.6Z	Bright	9832	Normal	Cone	4 lb.	1.49	1.44
200/34	0.5Z	Bright	9832	Normal	Beam	....	1.54	....

Pirns charged at $.25 or $.45 each, depending on type. Deposit refunded upon return of pirn in good condition. Cones are non-returnable. Beams and cradles are deposit carriers and remain property of American Enka Corporation.

Terms: Net 30 days. Minimum common carrier transportation charges will be pre-paid and absorbed to the first destination on or east of the Mississippi River. In pre-paying transportation charges, seller reserves the right to select the carrier used.

The Chemstrand Corp.

Current Prices

Effective June 2, 1958

Denier	Filament	Twist	Type*	Package	Standard Price/Lb.	Second Price/Lb.
10	1	O	SD	Bobbins	$8.42	$7.81
15	1	O	SD	Bobbins	5.25	5.00
15	1	O	SD	Spools	5.36	....
15	1	O	D	Bobbins	5.30	5.00
15	1	O	D	Spools	5.41	....
20	7	Z	D	Bobbins	2.96	2.61
30	10	Z	SD	Bobbins	2.36	2.21
30	10	Z	D	Bobbins	2.41	2.21
30	10	Z	HSD	Bobbins	2.36	2.21
30	26	Z	SD	Bobbins	2.49	2.21
40	7	Z	SD	Bobbins	2.11	1.81
40	10	Z	SD	Bobbins	2.01	1.91
40	13	Z	SD	Bobbins	2.01	1.91
40	13	O	SD	Draw Wind	2.01	1.91
40	13	Z	SD	Spools	2.11	....
40	13	Z	D	Bobbins	2.06	1.96
40	13	Z	D	Spools	2.16	....
50	17	Z	SD	Bobbins	1.91	1.76
50	17	Z	SD	Draw Wind	1.91	1.76
70	34	Z	SD	Bobbins	1.71	1.66
70	34	O	SD	Draw Wind	1.71	1.66
70	34	Z	SD	Spools	1.81	....
70	34	Z	B	Bobbins	1.71	1.66
70	34	O	B	Draw Wind	1.71	1.66
70	34	Z	D	Bobbins	1.76	1.66
70	34	Z	D	Spools	1.86	....
70	34	Z	HB	Bobbins	1.76	1.66
80	26	Z	SD	Bobbins	1.71	1.60
100	34	Z	SD	Bobbins	1.65	1.60
100	34	Z	SD	Spools	1.75	....
100	34	Z	HB	Bobbins	1.70	1.60
140	68	Z	SD	Bobbins	1.60	1.55
140	68	Z	SD	Spools	1.70	....
140	68	Z	B	Bobbins	1.60	1.55
200	34	Z	B	Bobbins	1.49	1.44
200	34	O	B	Draw Wind	1.49	1.44
210	34	Z	HB	Bobbins	1.49	1.44
210	34	O	HB	Draw Wind	1.49	1.44
210	34	Z	HB	Spools	1.54	....
210	34	Z	HB	Beams	1.54	....
210	34	Z	RHB	Bobbins	1.59	1.54
260	17	Z	HB	Bobbins	1.49	1.39
260	17	Z	HB	Spools	1.54	....
420	68	Z	HB	Bobbins	1.39	1.29
520	34	Z	HB	Bobbins	1.39	1.29
630	102	Z	HB	Bobbins	1.39	1.29
780	51	Z	HB	Bobbins	1.39	1.29
840	140	Z	HB	Beams	1.20	1.10
840	140	Z	HB	Tubes	1.20	1.15
840	140	O	HB	Draw Wind	1.20	1.13
840	140	Z	RHB	Beams	1.20	1.13
840	140	Z	RHB	Tubes	1.20	1.13
1040	68	Z	SD	Tubes	1.24	1.14
1040	68	Z	HB	Tubes	1.24	1.14
1680	280	Z	HB	Tubes	1.12	....
2080	136	Z	SD	Tubes	1.20	....
15120	2520	Z	RHB	Tubes	1.16	....

* Types: D—Dull; SD—Semi-dull; B—Bright; H—High tenacity.

Bobbins are invoiced at 25¢ or 45¢ each, depending on type; tubes are invoiced at 40¢ each; spools invoiced at $77.00 and $95.00 depending on type; and beams and crates for beams are invoiced at $220 and $25 respectively.

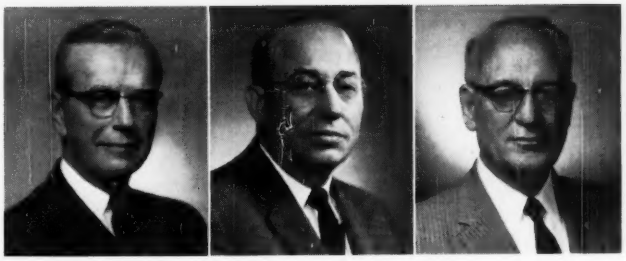
Prices subject to change without notice.

E. I. du Pont de Nemours & Co.

Textile Fibers Dept.

Current Prices — Nylon Yarn

Denier & Filament	Turns/Inch & Twist	Type	Package	1st Grade	2nd Grade
7-1	0	200	Bobbin	$9.47	$8.82
10-1	0	200	Bobbin	8.42	7.82
12-1	0	200	Bobbin	7.35	6.85
15-1	0	200	Beam	5.36	....
15-1	0	200	Bobbin	5.25	5.00
15-1	0	680	Beam	5.41	....
15-1	0	680	Bobbin	5.30	5.00
20-1	0	200	Bobbin	4.95	4.50
14-2	0.2Z	200	Bobbin	7.90	7.30
17-2	0.2Z	200	Bobbin	7.05	6.50
20-2	0.2Z	200	Bobbin	5.55	5.05
15-3	0.2Z	200	Bobbin	6.10	5.60
21-3	0.2Z	200	Bobbin	5.48	5.05
20-7	0.5Z	200	Bobbin	2.91	2.61
20-7	0.5Z	200	Beam	3.02	....
20-7	0.5Z	680	Bobbin	2.96	2.61
20-7	0.5Z	680	Beam	3.07	....



Left to right:
A. F. Koepcke
R. Walters
H. A. Jewell

Royden Walters has been appointed executive assistant to the president of Saco-Lowell Shops. At the same company **Henry A. Jewell** has been named director of procurement and material, and **Albert F. Koepcke,** director of industrial and public relations and advertising.

R. J. McConnell has retired from his position as sales executive for Whitin Machine Works. He will, however, continue his association with the company as a consultant to the sales department and to the company's customers.

Arthur Phillips, Jr. has been appointed vice president of the Solvay Process Division of Allied Chemical Corp., succeeding **Lester B. Gordon**, retired.

Joseph Cafasso has become head of the textile resin research and development department of Hart Products Corp. **Victor H. Lawrence** and **Gary Thomas** have joined the company's technical sales force.

Martin B. Friedman has been appointed director of advertising and sales promotion for the dyes department of American Cyanamid Co. and will be assisted by **Robert P. Vivian. Edward J. Reynolds** has become a senior representative in the woven goods department of the company's fibers division.

Deaths

Walter M. Schwartz, honorary chairman of the board of Proctor & Schwartz, Inc. He was 81.

AIR GUIDER'S

selvage finger points the way to these four-fold savings in hundreds of textile finishing plants:

SAVINGS NO. 1 Eliminates fabric spoilage; reduces damage and loss.

SAVINGS NO. 2 Cuts handling costs.

SAVINGS NO. 3 Reduces expensive equipment repairs and machinery down-time.

SAVINGS NO. 4 Provides textile operating economies that continue year after year.

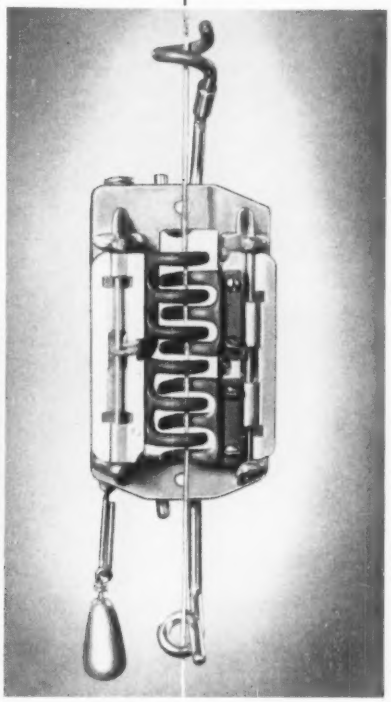
- Guides within 1/8-inch from 1 to 400 ypm.
- Maintains constant cloth alignment.
- Simple . . . no counter weights nor linkages.
- Handles woven and non-woven fabrics from lightest to #8 duck.

Put these profitable savings to use in your plant. Write for Mecho Air Guider catalog today.

The GUIDER Specialty Co. 423 W. Rock Avenue, New Haven 15, Conn.

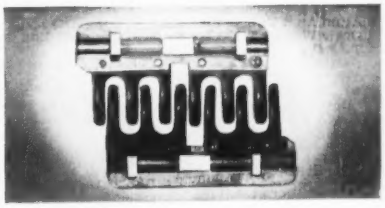
try HEANIUM®

HEANIUM TENSION FINGERS AND PIGTAILS FOR TENSION ASSEMBLIES ELIMINATE YARN DAMAGE



If guide wear is a problem in your mill . .

try HEANIUM T-3-F FINGER ASSEMBLIES



HEANY INDUSTRIAL CERAMIC CORP.
NEW HAVEN 3, CONNECTICUT

20-20	0.7Z	209	Bobbin	6.00	....
28-4	0.2Z	200	Bobbin	2.81	2.61
30-10	0.5Z	200	Bobbin	2.36	2.21
30-10	0.5Z	200	Tricot Bms.	2.46	
30-10	0.5Z	680	Bobbin	2.41	2.21
30-10	0.5Z	680	Tricot Bms.	2.51	....
30-26	0.5Z	200	Bobbin	2.49	2.21
40-1	0	100	Bobbin	4.03	3.75
40-7	0.5Z	200	Bobbin	2.11	1.91
40-10	0.5Z	200	Bobbin	2.01	1.91
40-13	0.5Z	200	Bobbin	2.01	1.91
40-13	0.5Z	200	Tricot Bms.	2.11	
40-13	0.5Z	400	Bobbin	2.13	1.90
40-13	0.5Z	680	Bobbin	2.06	1.96
40-13	0.5Z	680	Tricot Bms.	2.16	
40-34	0.5Z	200	Bobbin	2.21	1.81
50-10	0.5Z	200	Bobbins	2.11	1.76
50-17	0.5Z	200	Bobbin	1.91	1.76
50-17	0	200	Tubes	1.91	1.76
50-17	0.5Z	680	Bobbin	2.01	1.76
60-20	0.5Z	200	Bobbin	1.82	1.65
70-17	0.5Z	200	Bobbin	1.71	1.66
70-34	0	100	Tubes	1.71	1.66
70-34	0.5Z	100/200	Bobbin	1.71	1.66
70-34	0	200	Tubes	1.71	1.66
70-34	0.5Z	280	Bobbin	1.71	1.66
70-34	0.5Z	300	Bobbin	1.76	1.66
70-34	0.5Z	680	Bobbin	1.76	1.66
70-34	0	680	Tubes	1.76	1.66
80-26	0.5Z	200	Bobbin	1.71	1.56
90-26	0.5Z	200	Bobbin	1.76	1.66
90-44	0.5Z	200	Bobbin	1.86	1.76
100-34	0.5Z	200	Bobbin	1.65	1.60
100-34	0.5Z	300	Bobbin	1.70	1.60
100-34	0	300	Tubes	1.70	1.60
100-34	0.5Z	680	Bobbin	1.70	1.60
100-50	0.5Z	200	Bobbin	1.71	1.60
140-68	0.5Z	100	Bobbins	1.60	1.55
140-68	0	200	Tubes	1.60	1.55
140-68	0.5Z	200	Bobbin	1.60	1.55
140-68	0.5Z	300	Bobbin	1.65	1.55
200-20	1Z	100	Bobbin	1.49	1.44
200-34	0	100	Tubes	1.49	1.44
200-34	0.7Z	100	Bobbin	1.49	1.44
200-34	0.7Z	680	Bobbin	1.54	1.44
200-68	0.7Z	200	Bobbin	1.56	1.46
210-34	0	300	Tubes	1.49	1.44
210-34	0.7Z	300	Bobbin	1.49	1.44
210-34	0.7Z	300	Beam	1.54	....
210-34	0.7Z	330	Bobbin	1.59	1.44
260-17	1Z	300	Bobbin	1.49	1.39
400-68	0.7Z	100	Bobbin	1.39	1.29
420-68	1Z	300	Bobbin	1.39	1.29
520-34	1Z	300	Bobbin	1.39	1.29
630-102	0.7Z	300	Bobbin	1.39	1.29
780-51	1Z	300	Bobbin	1.39	1.29
800-140	0.5Z	100	Bobbin	1.39	1.29
840-140	0.5Z	300/700	Al. Tbs	1.20	1.13
840-140	0.5Z	300/700	Beam	1.20	....
1680-280	0.5Z	300/700	Al. Tbs. & Beams	1.12	....

Color-Sealed Yarn

Denier & Filament	Turns/Inch & Twist	Type	Package	1st Grade	2nd Grade
30-10	0.5Z	140	Bobbin	$2.71	$2.56
40-13	0.5Z	140	Bobbin	2.36	2.16
70-34	0.5Z	140	Bobbin	2.06	2.01
100-34	0.5Z	140	Bobbin	2.00	1.95
100-34	0	140	Tubes	2.00	1.95
200-34	0.7Z	140	Bobbin	1.84	1.79
260-17	1Z	140	Bobbin	1.84	1.79

Industrial Yarn				Price/Lb.
840-140	0.5Z	707	Cone	$1.13
2520-420	0	300/700	Paper Tube	1.18
4200-700	0	300/700	Paper Tube	1.17
5040-840	0	300/700/707	Paper Tube	1.17
7560-1260	0	300/700/707	Paper Tube	1.16
10080-1680	0	300/700/707	Pauer Tube	1.16
15120-2520	0	300/700/707	Paper Tube	1.16

These prices are subject to change without notice. Terms: Net 30 Days.

Types

Type 100—Bright, normal tenacity.
Type 140—Bright, color-sealed, black, normal tenacity.
Type 200—Semidull, normal tenacity.
Type 209—Semidull, normal tenacity, improved light durability and dye light fastness.
Type 300—Bright, high tenacity.
Type 330—Bright, high tenacity, more heat & light resistant.
Type 400—Semidull, high tenacity.
Type 680—Dull, normal tenacity.
Type 700—Bright, high tenacity.
Type 707—Bright, high tenacity (over 8.5 gpd) cordage yarn.

Freight Terms—Terms are F.O.B. shipping point, freight prepaid our route to points east of the Mississippi River within the continental limits of the United States, for points west of the Mississippi River freight allowed to the Mississippi River crossing nearest purchaser's mill if shipped overland, or port of exit of purchaser's choice east of Mississippi River.

Following are invoiced as a separate item.
Bobbins—25 cents or 45 cents depending on type
Aluminum Tube—40¢ each
Draw Winder Tubes—$.70 or $1.00 depending on type
Tire Cord Beams—$220.00 each
Cradles for Tire Cord Beams—$115.00 each
Tricot Beams—$95.00 each
Cradles for Tricot Beams—$130.00 each
(Beams and Cradles are deposit carriers and remain the property of E. I. du Pont de Nemours & Co., Inc.)

POLYESTER

E. I. du Pont de Nemours & Co.

Textile Fibers Dept.
Current Prices

"Dacron"*

Denier & Denier & Filament	Turns/Inch	Luster	Type*	Tubes Tubes 1st Gr.
30-14	0	Bright	55	$2.71
30-20	0	Semidull	56	2.71
40-27	0	Semidull	56	2.31
40-27	0	Bright	55	2.31
40-27	0	Dull	57	2.36
70-34	0	Semidull	56	1.91
70-14	0	Bright	55	1.91
70-34	0	Bright	55	1.91
70-34	0	Dull	57	1.96
100-34	0	Semidull	56	1.84
140-27	0	Bright	55	1.79
150-34	0	Semidull	56	1.79
220-50	0	Bright	51	1.76
250-50	0	Bright	55	1.76
1100-250	0	Semidull	59	1.50
1100-250	0	Bright	51	1.50
1100-250	0	Bright	52	1.50

Terms: Net 30 Days.

Domestic Freight Terms are F.O.B. shipping point, freight prepaid our route to points east of the Mississippi River within the continental limits of the United States, for points west of the Mississippi River freight allowed to the Mississippi River crossing nearest purchaser's mill if shipped overland, or port of exit of purchaser's choice east of Mississippi River.

Yarn Types

* Type:
Type 51—Bright, high tenacity.
Type 52—Bright, high tenacity.
Type 55—Bright, normal tenacity.
Type 56—Semidull, normal tenacity.
Type 57—Dull, normal tenacity.
Type 59—Semidull, high tenacity.

Tubes are invoiced as a separate item at $.70 each.

* "DACRON" is DuPont's registered trade-mark for its polyester fiber.

Eastman Chemical Products, Inc.

Tennessee Eastman Co.
Effective September 15, 1958

"Kodel"*

1½ denier	$1.60
3 and 4½ denier	1.50

Terms: Net 30 days.

SARAN FIBERS

The Saran Yarns Company — Odenton, Maryland

The Hall Company (Selling Agent)
41 East 42 Street, New York 17, N. Y. (Oxford 7-8996)

Current Prices:

CONTINUOUS FILAMENT

Type	Twist p. i.	Natural	Colors
1240/10	3	$1.32	$1.37
750/20*	3	1.75	1.80

* For filter fabrics and other industrial purposes only.

F.O.B. Odenton, Maryland.
Terms: Net 30 days.

NON CELLULOSIC STAPLE & TOW ACRYLIC

The Chemstrand Corp.

Current Prices

"Acrilan"*

Effective January 1, 1959

	Regular Acrilan	Acrilan 16
2.0 denier Semi-Dull and Bright staple & tow	$1.24	$1.24
2.5 denier Hi-Bulk Bright and Semi-dull staple and tow	1.18	1.18
3.0 denier Bright & Semi-dull staple & tow	1.18	1.18
5.0 denier Bright & Semi-dull staple & tow	1.18	1.18
8.0 denier Bright & Semi-dull staple	1.18	1.18
15.0 denier Bright & Semi-dull staple	1.01	1.05

Terms: Net 30 days. Freight prepaid to points east of the Mississippi River.

* "Acrilan" is Chemstrand's registered trademark for its acrylic fiber.

The Dow Chemical Company

Textile Fibers Department
Current Prices

"Zefran"*

2.0 denier Semidull & Bright—Staple only	$1.33
3.0 denier Semidull & Bright—Staple only	1.28
6.0 denier Semidull & Bright—Staple only	1.20

Terms: Net 30 days.

Transportation Terms: F.O.B. shipping point—Freight prepaid our route to points east of the Mississippi River within the continental limits of the U. S., for points west of the Mississippi River crossing nearest purchaser's mill if shipped overland or port of exit of purchaser's choice east of the Mississippi River.

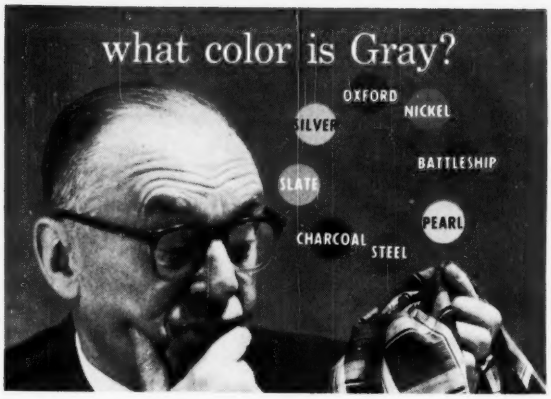
* "Zefran" is Dow's registered trademark for its acrylic alloy fiber.

E. I. du Pont de Nemours & Co.

Textile Fibers Dept.
Current Prices

"Orlon"** Acrylic Staple & Tow

Type 42	1st Grade
1.0 Denier Semidull & Bright—Staple only	$1.28
2.0 Denier Semidull & Bright	1.28
3.0 Denier Semidull & Bright	1.28



At ATLANTIC color specified is color delivered . . . assured by superior techniques and facilities acknowledged in the industry.

YARN DYEING

Rayon • Nylon • Acetate • Stretch Yarns
Cakes • Packages • Skeins

Custom-matched colors. Large dye batches.
Any degree of color fastness. Packaged as desired.
PROMPT DELIVERY

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Rayon Corporation

125 WEST 41st ST., NEW YORK 36, LONGACRE 3-4200
PLANT: 86 CRARY ST., PROVIDENCE, R. I.

Baker New AATT President

Cameron A. Baker

Cameron A. Baker of United States Testing Co., Hoboken, N. J., has been elected president of the American Association for Textile Technology, Inc. He succeeds Gerard K. Lake of Burlington Industries. Baker was inducted into office at the January 7 meeting of AATT in New York City. Other officers elected were Kurt Winter, first vice president, Giles Hopkins, second vice president. Bernice Bronner, secretary and Fred Simmons, treasurer.

John Crosby *(Continued from Page 53)*

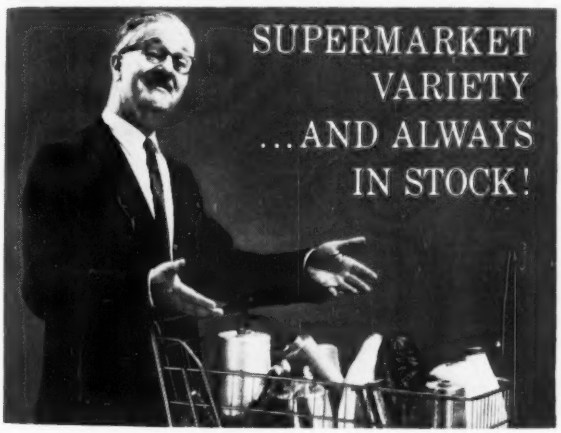
It was Warren's practice to open all the company mail himself, personally and then see that it was properly routed among his company's departments. In this work, and in a thousand other matters, Warren came to rely on the keen mind, quick understanding and infallible memory of his young helper.

In the evenings Crosby went to James Monroe High School to carry on his high school studies. Among his subjects was shorthand which he thought would help him in his business career. Getting more and more proficient in this abstruse skill, Crosby became impatient for an opportunity to practice it gainfully.

In 1936, such an opportunity arose when Warren's secretary, Alice Berto, left to take a job as secretary to Sidney H. Scheuer, then as now the fabulous head of the many-faceted textile operation of Scheuer and Co. Miss Berto, who like most people with whom he worked, had formed a high opinion of John Crosby's youthful abilities, recommended him for a job with Scheuer as assistant to Herbert Sweidler, in charge of Scheuer's bookkeeping department.

The intense atmosphere of high-powered fabric buying and selling in Scheuer's office turned out to be a climate that suited Crosby perfectly. Working under Sweidler on the bookkeeping details of the fast and varied flow of textile buying and selling that took place daily in Scheuer's office, Crosby began to learn the basics of textile marketing. Learning by day at a fast pace, Crosby also took the trouble to learn more by night. He enrolled at the famous Straubenmuller Textile High School on West 17

(Continued on Page 69)



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RAYON • NYLON • ACETATE YARNS
graded and inferiors—all put ups.

MALORA® METALLIC YARNS
supported and unsupported

THROWN YARNS

HELANCA® STRETCH YARNS
NYLON • DACRON

Exclusive selling agents for Synthetic Yarns Inc. and Synfoam Yarns Inc., Lowell, Mass.

Malina
COMPANY

125 WEST 41st STREET, NEW YORK 36, LOngacre 3-4200

3.0 Denier Semidull Color-sealed Black	1.63
6.0 Denier Semidull & Bright	1.18
6.0 Denier Color-sealed Black	1.55
4.5 Denier Semidull	1.18
10.0 Denier Semidull & Bright	1.18

Tow—Total Denier 470,000
Staple Lengths—1½", 2", 2½", 3", 4½"
High Shrinkage Staple price as Regular Staple

Type 25
This product is designed for *Cotton/Rayon System* Spinning and is 2.5 denier, 1½" semidull regular shrinkage staple.

Type 39 $.94
This product is designed for *woolen system spinning* and is a blend of deniers (average 4.2) with a variable cut length.

Type 39A $.99
This product is designed for *woolen system spinning* and is a blend of predominately fine deniers (average 2.4) with a variable cut length.

Type 39B $.94
This product is designed for *woolen system spinning* and is a blend of predominately heavy deniers (average 6.5) with a variable cut length.

F.O.B. Shipping Point—Freight prepaid our route to points east of the Mississippi River within the continental limits of the United States, for points west of the Mississippi River freight allowed to the Mississippi River crossing nearest purchaser's mill if shipped overland, or port of exit of purchaser's choice east of Mississippi River.

Terms: Net 30 Days.

** "ORLON" is DuPont's registered trade-mark for its acrylic fiber

Eastman Chemical Products, Inc.

Tennessee Eastman Co.

Effective November 3, 1958

"Verel"*

Deniers	Dull and Bright
2 and 3	$1.02 per pound
5, 8, 12, 16, and 20	.92
24 denier	.97

Prices are subject to change without notice.

Terms: Net 30 days. Payment—U. S. A. dollars.

Transportation charges prepaid or allowed to destination in the United States east of the Mississippi River. Seller reserves the right to select route and method of shipment. If buyer requests and seller agrees to a route or method involving higher than lowest rate buyer shall pay the excess of transportation cost and tax.

* "Verel" is a trade-mark of the Eastman Kodak Co.

The B. F. Goodrich Company

B. F. Goodrich Chemical Co.

DARVAN

Effective Nov. 21, 1958

Type	Price Per Pound Not Crimp Set	Crimp Set
3, 4½ and 6 Denier	$1.45	$1.50
1½, 2 Denier	$1.50	$1.55

Pack in 100 Lb. Bales, Net
Staple lengths 1½, 2, 3, 4½
Tow—90,000 Total Denier
Bright, Semi-dull, Dull

(Deniers and lengths of staple not listed above are available upon special request.)

Terms: Net 30 Days.

F.O.B. Shipping Point—Minimum freight prepaid our route to points east of the Mississippi River within the continental limits of the United States, for points west of the Mississippi River freight allowed to the Mississippi River crossing nearest purchaser's mill if overland, or port of exit of purchaser's choice east of the Mississippi River.

Union Carbide Chemicals Co.

Div. Union Carbide Corp.
Textile Fibers Dept.
Effective October 1, 1957

Dynel Staple & Tow

Natural Dynel	
3, 6, and 12 Denier, Staple and Tow	1.10 per lb.
24 Denier, Staple and Tow	1.05 per lb.
Dynel Spun with Light Colors:	
Whitened, Blond, or Gray	
3 and 6 Denier, Staple and Tow	1.30 per lb.
Dynel Spun with Dark Colors:	
Black, Charcoal, and Brown	
3 and 6 Denier, Staple and Tow	1.40 per lb.
Dynel Type 63 Bulking Fiber (3 Denier only)	Add $.05 per lb. to above prices

Prices are quoted f.o.b. South Charleston, W. Va.

NYLON

American Enka Corp.

Effective August 19, 1958

Enka Nylon (Nylon Six Staple)

Denier	Luster	Length (Inches)	Price per pound
3	semi-dull	1⅛, 1½, 2, 2⅝, 3, 4½	$1.28
6	bright	3, 4½	1.28
8	bright	2⅝	1.15
10	bright	3	1.08
15	bright	3	1.08
15	semi-dull	3	1.08

Deniers and lengths of staple not listed above are available upon special request.

Terms: Net 30 days. Minimum common carrier transportation charges will be prepaid and absorbed to the first destination on or east of the Mississippi River. In prepaying transportation charges, seller reserves the right to select the carrier used.

E. I. du Pont de Nemours & Co.

Textile Fibers Dept.
Current Prices

Nylon Staple and Tow

Denier	Type	Staple Lengths	Tow Bundle	1st. Grade Price/Lb.	2nd Grade Staple Only
1.5	200	1⅛"—4½"	None made	$1.33	$1.18
1.5	201	1⅛"—4½"	None made	1.35	1.20
2.2	420	1½" only	None made	1.28	1.13
3.0	100/200	1⅛"—4½"	430M	1.28	1.13
3.0	101/201	1⅛"—4½"	455M	1.30	1.15
6.0	100	1⅛"—4½"	330M	1.28	1.13
6.0	101	1⅛"—4½"	345M	1.30	1.15
15.0	100	1½"—6½"	425M	1.08	....
15.0	101	1½"—6½"	None made	1.10	....
15.0	600	1½"—6½"	425M	1.10	....
15.0	601	1½"—6½"	None made	1.12	....

Staple lengths are restricted to the range shown opposite each denier above. The actual cut lengths within these ranges are as follows:

1⅛, 1½, 2, 2½, 3, 4½ and 6½

Types

Type 100 Bright, normal tenacity, not heatset.
Type 101 Bright, normal tenacity, heatset.
Type 200 Semidull, normal tenacity, not heatset.
Type 201 Semidull, normal tenacity, heatset
Type 600 Dull normal tenacity, not heatset.
Type 601 Dull normal tenacity, heatset.
These prices are subject to changes without notice.
Terms—Net 30 Days.

Freight Terms—Terms are F.O.B. shipping point, freight prepaid our route to points east of the Mississippi River within the continental limits of the United States, for points west of the Mississippi River freight allowed to the Mississippi River crossing nearest purchaser's mill if shipped overland, or port of exit of purchaser's choice east of Mississippi River.

Industrial Rayon Corp.

Effective August 18, 1958

Nylon Staple

1.5 denier	$1.33 per lb.
2, 3 and 6 denier	1.28 per lb.
8 denier	1.15 per lb.
15 and 22 denier	1.08 per lb.

Bright, semi-dull, and full-dull. Required lengths.

Terms: Net 30 days f.o.b. point of shipment; title to pass to buyer on delivery of goods to carrier. Domestic transportation charges prepaid with transportation allowed at lowest published rate to all points east of the Mississippi River.

POLYESTER

E. I. du Pont de Nemours & Co.

Textile Fibers Dept.
Current Prices

"Dacron"* Staple and Tow

Denier	Luster	Type	Length	Tow Bundle	1st Gr.
1.25	Semidull	54	1¼"-3"		$1.36
1.5	Semidull	64	Tow only	375M-600M	1.41
1.5	Semidull	54	1¼"-3" & Tow	375M-600M	1.36
3.0	Semidull	64	1¼"-4½" & Tow	375M-500M	1.41
3.0	Semidull	54	1¼"-4½" & Tow	375M-500M	1.36
4.5	Semidull	64	1¼"-4½" & Tow	375M-500M	1.36
4.5	Semidull	54	1¼"-4½" & Tow	375M-500M	1.41
6.0	Semidull	64	1¼"-4½" & Tow	375M-500M	1.36
6.0	Semidull	54	1¼"-4½" & Tow	375M-500M	1.31

* Type:
Type 54—SemiDull, Normal Tenacity.
Type 64—Pill Resistant more Dyeable Staple for Worsted & Rayon Blends.

F. O. B. Shipping Point—Freight prepaid our route to points east of the Mississippi River within the continental limits of the United States, for points west of the Mississippi River freight allowed to the Mississippi River crossing nearest purchaser's mill if shipped overland, or port of exit of purchaser's choice east of Mississippi River.

POLYVINYL ACETATE

American Viscose Corp. Effective October 1, 1956

"Vinyon"® Staple

3.0 denier ½" unopened	$.80 per lb.
3.0 " 1¼" unopened	.80 per lb.
3.0 " 1¼" opened	.90 per lb.
3.0 " 2" opened	.90 per lb.
3.0 " 2" unopened	.80 per lb.
5.5 " 1" opened	.90 per lb.
5.5 " 3½" opened	.90 per lb.
5.5 " 3½" unopened	80 per lb

Terms: Net 30 days.

SARAN FIBERS

The Saran Yarns Company — Odenton, Maryland

The Hall Company (Selling Agent)
41 East 42 Street, New York 17, N. Y. (Oxford 7-8996)
Current Prices:

John Crosby

(Continued from Page 67)

Street, and informed himself with the help of the courses there on such basic textile matters as weaving, yarn spinning and the intricacies of the classic fabric constructions.

In his work at Scheuer, Crosby did not take long to grasp that the royal road to increased earnings and eminence in textiles lay in selling. To learn more about the complex arts of selling fabrics, he shifted over from the bookkeeping department to a position as secretary to Saul Rosenbaum, a Scheuer partner in charge of synthetics sales. Working under Rosenbaum, a man widely acknowledged as one of the masters of the business of textile brokerage, Crosby gradually took on the duties of an inside salesman and general assistant and coordinator of market information for the older salesmen in Rosenbaum's department until he left in 1942 to volunteer in the Air Force.

Today, looking younger than his 41 years, the heavy burdens of supervising the sales and selling force of the huge Iselin-Jefferson operation appear to rest lightly on energetic, quick-witted and straight-talking John Crosby. His biggest and most difficult job, he says, is planning for the future. And by the future he means five or six years from now. How to plan the production and merchandising directions of the 50 odd mills whose astronomical yardages Iselin must profitably sell; how to counsel these mills on the kind of new equipment they should buy and how much they should plan to invest in such equipment; how to foresee the directions consumer preferences will take in the matter of fibers and fabrics—these are tasks which may well impose the most strenuous tests on the varied abilities of John Crosby.

The future will show how well Crosby measures up in these tests. What can be said now is this: the fact that he considers long-term planning his biggest job is a gauge of how ably he grasps the fundamentals of the heavy new responsibilities given him last year by Iselin management. His sure and complete understanding of these fundamentals would seem, along with all his other demonstrated capabilities in fabric marketing, to point to still greater responsibilities and greater opportunities coming his way in the years ahead.

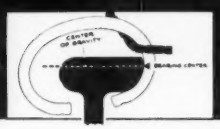
Saco-Lowell Reassigns Staff

Reassignment of personnel in the Saco-Lowell Textile Machinery Division Sales and Service Departments has been announced. The general sales office at Easley, S. C., consists of: J. Woodward Hubbard, general sales manager; Herman J. Jones, assistant general sales manager; H. M. Walsh, sales coordinator; A. A. Molnar, service coordinator; H. V. Manseau, sales engineering supervisor; A. K. Bonge, customer sales demonstration area supervisor, and A. L. Park, Fleissner dryer activities.

The Greenville district office, headed by James W. Dickert, moved on January 1 from the Easley plant to 201 E. North St., Greenville, S. C.

Thomas J. Ault, president of Saco-Lowell Shops, has announced promotion of James P. W. Davidson as director of business development. Davidson will explore potential new products for manufacture or development.

MORE THAN 60 MILLS
are improving production
with the
"ANTI-WEDGE"
Spinning Ring



permits maximum speeds with elliptical travelers . . .

Mill reports vary from the **general:**

"Easiest starting rings I ever saw."

"Of all the new rings I am testing, the Anti-Wedge is showing up best."

. . . to the **specific:**

"Increased my front roll speed by 8 turns."

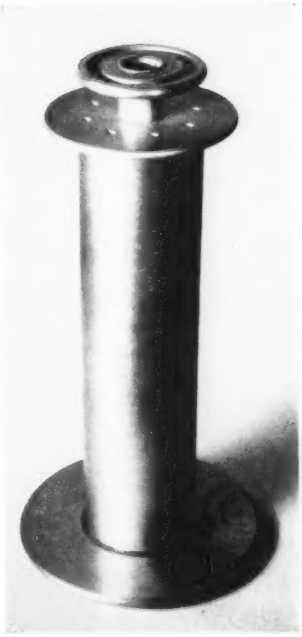
"Reduced ends down 50%, same speed."

WHITINSVILLE (MASS.)
SPINNING RING CO.
Makers of Spinning and Twister Rings since 1873
DIAMOND FINISH

Rep. for the Carolinas & Va.: W. K. SHIRLEY, P.O. Box 406, Belmont, N. C.
Rep. for Ala., Ga., & Tenn.: H. L. WILLIAMS, Box 222, West Point, Ga.

N E W

LOW COST
ALUMINUM
TWISTER
BOBBIN



New aluminum twister bobbin of high strength will not warp or fail despite repeated steamings of highest strength nylon yarns. Of two pound capacity, this new bobbin is dynamically balanced and anodized against corrosion yet is less costly than ordinary bobbins. Spindle guide tube goes all the way through. Grip knob with identification ring simplifies handling without need to touch yarn. Available in a variety of sizes. Write for details today.

BW MACK
ALLENTOWN BOBBIN WORKS, INC.
ALLENTOWN PENNSYLVANIA

Saran Staple

Type	Denier	Natural	Colors
2N	22	$0.70	$0.75
2N	16	.74	.79
3Q*	22	.63	67

In any staple length 1½ to 6". Also 45 denier, 7" cut.
* For carpets and industrial fabrics.
F.O.B. Odenton, Maryland.
Terms: net 30 days.

METALLICS

Textile Fibers Dep't

The Dow Chemical Co., James River Div.
Williamsburg, Va.

Lurex Yarn Division Current Prices

#150 LUREX-MM* (Made with Metalized Mylar)

Width	1/128"	1/100"	1/64"	1/50"	1/32"
Silver					
Yield in Yds/Lb	42,400	35,300	23,200	16,600	10,500
1 Case to 1,999#	$10.65	$10.25	$7.80	$7.60	$7.35
2,000# to 4,999#	10.10	9.75	7.40	7.20	7.00
5,000# and over	9.90	9.55	7.25	7.05	6.85
Gold & White Gold					
Yield in Yds/Lb	37,900	30,000	19,200	15,000	9,400
1 Case to 1,999#	$10.90	$10.50	$8.00	$7.75	$7.60
2,000# to 4,999#	10.35	10.00	7.60	7.35	7.20
5,000# and over	10.15	9.75	7.45	7.20	7.05
Standard Colors					
Yield in Yds/Lb	37,500	29,500	19,100	15,400	9,300
1 Case to 1,999#	on	on	$9.00	on	$8.70
2,000# to 4,999#	Re-	Re-	8.55	Re-	8.25
5,000# and over	quest	quest	8.35	quest	8.10

#150 LUREX MF* (Mylar—Foil—Mylar)

Width	1/100"	1/64"	1/50"	1/32"
Silver				
Yield in Yds/Lb	26,000	18,700	13,900	9,300
1 Case to 1,999#	$7.80	$5.45	$5.25	$5.15
2,000# to 4,999#	7.40	5.15	5.00	4.90
5,000# and over	7.25	5.05	4.90	4.80
Gold, White Gold & Copper				
Yield in Yds/Lb	24,000	17,250	12,700	8,400
1 Case to 1,999#	$8.00	$5.60	$5.40	$5.30
2,000# to 4,999#	7.60	5.30	5.15	5.05
5,000# and over	7.45	5.20	5.00	4.90
Standard Colors				
Yield in Yds/Lb	25,000	17,500	13,000	8,700
1 Case to 1,999#	$8.75	$6.30	$6.15	$6.00
2,000# to 4,999#	8.30	6.00	5.85	5.70
5,000# and over	8.10	5.85	5.70	5.60

#260 LUREX* (Regular Butyrate)

Width	1/100"	1/80"	1/64"	1/50"	1/32"	1/16"
Gold, Silver & Copper						
Yield in Yds/Lb	16,400	13,000	10,500	8,200	5,200	2,600
1 Case to 1,999#	$4.50	$4.00	$3.35	$3.25	$3.00	$2.85
2,000# to 4,999#	4.30	3.80	3.20	3.10	2.85	2.70
5,000# and over	4.20	3.70	3.10	3.00	2.80	2.65
Standard Colors						
Yield in Yds/Lb	—	—	10,500	8,200	5,200	—
1 Case to 1,999#	—	—	$3.45	$3.35	$3.10	—
2,000# to 4,999#	—	—	3.30	3.20	3.00	—
5,000# and over	—	—	3.20	3.10	2.90	—
Multicolors						
Yield in Yds/Lb	—	13,000	10,500	—	5,200	—
1 Case to 1,999#	—	$4.30	$3.65	—	$3.30	—
2,000# to 4,999#	—	4.10	3.45	—	3.15	—
5,000# and over	—	4.00	3.40	—	3.10	—

A. LUREX*, LUREX-MM*, and LUREX MF* are the registered trademarks of The Dobeckmum Company, A Division of The Dow Chemical Company. Mylar is DuPont's polyester film.

B. Standard Colors:

L-941	Scarlet	L-981	Pink Opal
L-984	Turquoise	L-942	Peacock Blue
L-940	Emerald Green	L-983	Violet
L-861	Bronze	L-978	Gunmetal
2A-1	Multicolor	3A-2	Multicolor
4A-5	Multicolor	4A-7	Multicolor
6A-1	Multicolor	6A-2	Multicolor
L-869	Fuchsia	L-982	Blueflower
L-935	Royal Blue	L-980	Apple Green
L-1008	Purple	L-933	Copper
L-850	Jet	L-1007	Green Gold
3A-3	Multicolor	1A-3	Multicolor
4A-14	Multicolor	4A-4	Multicolor
6A-3	Multicolor	3A-4	Multicolor

C. Other colors available on a custom basis only for which a minimum firm order of 150 lbs. is required. Regular color prices will apply. After approval of color swatch, one sample run of 10 lbs. or over can be ordered with an up-charge of $2.00 per lb. over regular color prices.

D. LUREX-MM, LUREX-MF and regular LUREX is supplied on disposable spools having plastic end plugs with 3/8" I.D. holes. Spools contain approx. 1 lb. of yarn.

E. Cases contain 6 LUR-PAKS. Each LUR-PAK contains 6 one pound spools.

F. Yields are subject to variation of plus or minus 5%.

G. TERMS: 1% 10 days from date of invoice, Net 30 days, FOB Cleveland, Ohio. Minimum freight allowed on shipments of 100 pounds and over.

H. Items may be combined for quantity prices.

Metlon Corp.

Effective December 1, 1958
Replaces September 2, 1958

METLON*—MYLAR**
Price List

METLON* V—MYLAR** (Vacuum deposited, 2 ply)

Width	Yards Per Lb. (Plus or minus 5%)	Silver Only Price Per Lb.
1/64"	31,000	$8.50
1/50"	24,000	8.35
1/32"	15,500	8.20

METLON* V—MYLAR** (Vacuum deposited, 3 ply)

Width	Yards Per Lb. (Plus or minus 5%)	Price Per Lb. Gold	Price Per Lb. Silver
1/64"	21,000	$7.35	$7.25
1/50"	16,400	7.10	7.05
1/32"	10,500	6.95	6.85

Colors available in 3 ply only at 65¢ per pound over price for Gold.
No Quantity Discounts On Either Quality.
Terms: 1% 10 days, net 30. F.O.B. Providence, Rhode Island. Minimum freight allowed on shipments of 100 lbs. or over.
Put Up: Plastic Disposable Spools.
Minimum Order: One case (approximately 35 lbs. net). Smaller quantities subject to surcharge.
Palletizing: On request, shipments of 4 cases or more will be palletized without additional charge.
* Metlon's registered trademark for non-tarnishing metallic yarn.
** DuPont's registered trademark for polyester film.

METLON*—MYLAR** (Foil Laminated)

	1/120"	1/80"	1/64"	1/50"	1/32"
Metlon-F Mylar					
Yards Per Lb. (±5%)	32,200	21,500	17,200	13,500	8,600
Gold	$9.35	$6.75	$5.20	$5.00	$4.90
Silver	9.35	6.75	5.05	4.90	4.80
Standard Colors	10.00	7.40	5.85	5.65	5.55
Metlon-F Mylar Ultravat					
Yards Per Lb. (±5%)	32,200	21,500	17,200	13,500	8,600
Gold	$9.60	$7.00	$5.65	$5.45	$5.35
Silver	9.60	7.00	5.55	5.40	5.30
Metlon-F Mylar Superfine					
Yards Per Lb. (±5%)	35,100	23,450	18,750	14,700	9,400
Gold	$10.00	$7.25	$5.60	$5.40	$5.30
Silver	10.00	7.25	5.50	5.35	5.25
Standard Colors	10.65	7.90	6.25	6.05	5.95
Metlon-F Mylar Superfine Ultravat					
Yards Per Lb. (±5%)	35,100	23,450	18,750	14,700	9,400
Gold	$10.25	$7.50	$6.00	$5.85	$5.75
Silver	10.25	7.50	6.00	5.85	5.75

Prices for 1/16" and 1/8" same as for 1/32". Yields are proportionate.
* Metlon's registered trademark for non-tarnishing metallic yarn.
** DuPont's registered trademark for polyester film.

Reynolds Metals Co.

Reynolds Aluminum Yarns

November 21, 1958

REYMET
200 Series Aluminum Yarn

Reymet 235 (Mylar-Foil)

Quantity in Pounds	Description: Width:	Yield (Yds./lb.):	Silver—Price Per Pound 1/8" 2,150	1/16" 4,300	1/32" 8,600	1/50" 13,400	1/64" 17,200	1/80" 21,400
5,000 and Over			$4.65	$4.75	$4.80	$4.90	$5.05	$6.50
2,000 thru 4,999			4.75	4.85	4.90	5.00	5.15	6.65
48 thru 1,999			5.00	5.10	5.15	5.25	5.45	7.00
			Gold and Copper—Price Per Pound					
5,000 and Over			$4.75	$4.85	$4.90	$5.00	$5.20	$6.65
2,000 thru 4,999			4.90	5.00	5.05	5.15	5.30	6.80
48 thru 1,999			5.15	5.25	5.30	5.40	5.60	7.15
			Other Colors and Multicolors—Price Per Pound					
5,000 and Over			$5.30	$5.45	$5.60	$5.70	$5.85	$6.85
2,000 thru 4,999			5.40	5.55	5.70	5.85	6.00	7.00
48 thru 1,999			5.70	5.85	6.00	6.15	6.30	7.35

Reymet 250 (Metalized Mylar-Mylar)

Quantity in Pounds	Description: Width:	Yield (Yds./lb.):	Silver—Price Per Pound 1/32" 10,000	1/50" 15,650	1/64" 20,000	1/80" 25,000
5,000 and Over			$6.85	$7.05	$7.25	$9.30
2,000 thru 4,999			7.00	7.20	7.40	9.45
48 thru 1,999			7.35	7.60	7.80	9.85
			Gold Only—Price Per Pound			
5,000 and Over			$7.05	$7.20	$7.45	$9.50
2,000 thru 4,999			7.20	7.35	7.60	9.65
48 thru 1,999			7.60	7.75	8.00	10.05

Grouping: Items of the same material specification but different widths and colors may be combined for quantity price provided the minimum per item is 250 pounds. No grouping of Reymet 245 and Reymet 250.

For prices of Reymets 204, 215, 230, and 255 refer all inquiries to Products Department, General Sales, Richmond.

Available Packages:

Following types available.

Die-cast aluminum spools with straight flange, 3" O.D., 3¼" traverse. Each spool contains approximately 8 ounces of yarn. These spools, billed at $.40 each, are returnable for credit in good condition, F.O.B. Reynolds Metals Company, 11th and Byrd Streets, Richmond, Virginia.

No charge returnable plastic spools with 3¼" O.D., 4½" traverse. Each spool contains approximately 1 pound of yarn. These spools are returnable for credit @ $.02 each, F.O.B. customer's plant. Subject to inspection and count of seller.

Tin spools with straight flange with 3" O.D., 3¼" traverse. Each spool contains approximately 8 ounces of yarn. These spools, billed at $.10 each, are returnable for credit in good condition, F.O.B. Reynolds Metals Company, 11th and Byrd Sts., Richmond, Virginia.

Packing:
35 Spools per corrugated fibre carton, size 15¼" x 14½" x 11".

Ordering Data:

Specify Product, Color, Width, and Type of Spool.

General Terms of Sale

1. All orders are subject to final acceptance by an officer or authorized agent of Reynolds Metals Company at our Richmond, Virginia, or Regional and Divisional Sales Offices.
2. Terms:
   (a) Aluminum Yarns: 1% ten (10) days, net cash thirty (30) days from date of invoice, subject to approval of the Treasurer.
   (b) Returnable Spools: Net cash thirty (30) days from date of invoice, subject to approval of the Treasurer.
3. Delivery: F.O.B. shipping point.
4. Transportation Allowance: Transportation charges will be prepaid to city of destination within continental United States except Alaska (which shall be F.A.S. port of exit) on shipments of 125 lbs. or more when seller routes. Charges exceeding lowest of published rail or truck rates are for customer's account when shipments are routed pursuant to customer's instructions. (Charges on shipments weighing under 125 lbs. net weight are for customer's account).
5. All prices subject to change without notice.

New Frontiers of Dyeing

(Continued from Page 24)

In the case of vat dyes this method in effect completely overcomes a major hazard. Dye can be distributed to all parts of the fabric mass in the *non-substantive state;* leuco vat adsorption does not commence until dye particles are in situ as inactive pigment for uniform distribution eventually as leuco dye.

The standfast molten metal process is also continuous; here the fabric runs through concentrated leuco dye into a bed of liquid Woods metal which provides both dyeing heat and mechanical pressure. Its great advantage is the ease of cleaning and liquor changing so that what is a continuous process can be used economically for brief runs and small weights.

The leuco vat dyeing of yarn and fiber packages in circulatory machines is notoriously hazardous because of the high affinity of leuco dyes for cellulose and the consequent difficulty of distributing dye through thick masses, i.e., rayon cheeses. Before circulating liquor has penetrated the package wall much of the dye is exhausted on to the package outer surface and dyeing becomes a long, slow process of redistribution from dyed to undyed places—from the outside of the mass to the inside. Imperial Chemical Industries workers and one of my colleagues, Hampson, at Droylsden, have together developed a method of distributing vat dye pigment so that the particles are uniformly adsorbed on to every fiber surface, and following this with the circulation of reducing liquor so that dyeing proper takes place throughout the mass of yarn.

The furtherance of these basic ideas, of applying dye to fiber in non-substantive form and then generating substantivity in an essentially uniform system of dye and fiber is, and should be, a major aim of dyeing research.

A notable advance has been provided by the appearance of chemically reactive dyes, of which so far we have seen announced the Procions (ICI) and the Cibacrons (Ciba).

With the Procions of Imperial Chemical Industries we have soluble dyes of very low substantivity which can be padded into cellulose, activated chemically by alkalies and dyed on by chemical reaction between reactive dye groups and cellulose hydroxyls. The combination of high initial diffusion rate whilst inactive, and real chemical affinity when activated, offers a concept of dyeing which should provide not only for highly uniform dyeing, but for continuity of process and high fastness of the dyed product.

We have so far discussed dyeing in terms of an end product in which dye and fiber are (direct), or have been at some stage (vat), in intimate molecular association: i.e. dyes have penetrated into fibers.

Given that pigment and fiber are associated together uniformly, and the association is of some permanence, there is no fundamental reason why pigments should not be attached, by some separate adhesive agency, to the surface of fibers. This idea has been under development for some long time, in the resin bonded pigments which have appeared commercially. Advantages to be gained, if the right kind of adhesive can be found such as will anchor relatively large amounts of pigment and yet not affect fiber mechanical properties are, or should be, twofold. The process can be made continuous and it is non-aqueous in that the necessity to heat up large bulks of water is obviated. Furthermore, a great many inorganic and simple organic pigments are available which are cheaper than water-soluble dyes.

During the 25 years under review there have been significant changes in the fiber field which are in-

COLOR RICHES
top colorfastness...color beauty...
color uniformity...color versatility
UNLIMITED for fabric, apparel,
home furnishings, everything
COURTAULDS'
COLORAY®
solution-dyed rayon fiber
CAPTIVE COLOR
..."CAN'T ESCAPE!"
COURTAULDS (Alabama) Inc., 600 Fifth Ave., N. Y. 20

creasingly affecting dyeing technology. Time was when the cellulose dyer dyed cotton and rayon. To an increasing degree, both these fibers are being used in blends with other staples. The existence of cellulose secondary and triacetates, polyamide, polyester, polyacrylic, and regenerated protein fibers, plus the natural staples cotton and wool, means inevitably that more than one fiber must be treated in a common dyeing process.

Textile technology is moving rapidly in the direction of multiple fiber structures. Broadly speaking, cotton and viscose rayon staple will be the base-load fibers in that development. Fabric dyers will be increasingly faced with textiles made of cellulose plus something else. This is not the place to attempt any itemization of the possibilities. But the problems are already formidable. We in the dyestuff, fiber and dyeing fields are having to apply our development resources at full pressure to the discovery of technological methods of dealing with the theoretically near-infinite number of dye-fiber systems. Two lines of development stand out:

Where a fabric comprises e.g. a fiber to which cellulose dyes are acceptable and one to which they are not, both may be colored by the padding on and fixation of an unreactive pigment. The alternative is that one, or both, of the fibers should be dyed as raw material, before spinning into yarn or weaving into fabric. Both these lines are likely to create revolutionary changes in machinery and processes. In the case of both cotton and viscose rayon, these changes will be influenced by new spinning techniques. The dyeing of fibers as such calls for blending of colored fibers in yarn spinning; this is established wool technology. Modern cotton spinning techniques may call for the dyeing of draw-frame slivers by similar means to those used for dyeing wool-slubbing. In the case of viscose rayon, why not dye fiber tow? A thin continuous tow-length of high linear strength lends itself to continuous and therefore cheaper dyeing methods which are certainly simpler in principle than dyeing large bulks of loose fiber or dense packages of yarn.

Finally, as far as viscose rayon is concerned, why dye at all? The principle of solution-dyeing, or mass pigmentation, pioneered by the viscose rayon industry has led to a considerable output of colored fibers and yarns. These possess the advantages of cheapness compared with the cost of producing dyed equivalents; and they also possess fastness properties of an all-round order which is higher than otherwise can be obtained.

What, after 26 years of work in the dyeing field, I have been suggesting, is that we should not dye at all if we can avoid it—if by dyeing we mean that physico-chemical system upon which many of us here have spent so much time. The facts are, of course, that dyeing will go on so long as commerce demands that stocks of white textiles be warehoused for conversion: and there are good reasons why that must be so in some sectors of the textile industry. But there can be no doubt of two things:

1. That an intensive period of inspired technical improvisation is ahead of us, out of which sound lines of research and development will emerge and, in fact, have emerged.
2. That man-made fibers will be bought and used, to an advancing degree, as already colored commodities.

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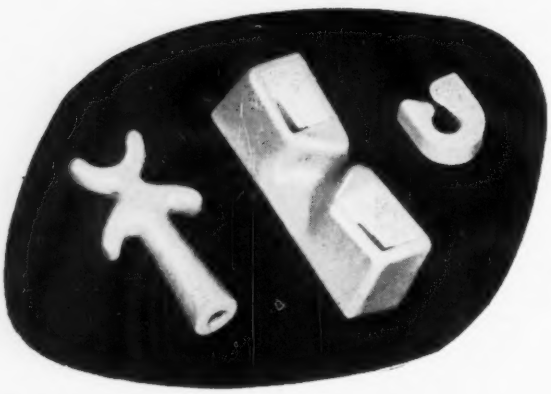

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Calendar of Coming Events

Feb. 3-5—Reinforced Plastics Div. of Society of the Plastics Industry 14th Annual Technical & Management Conference. Edgewater Beach Hotel, Chicago, Ill.
Feb. 4—AATT monthly meeting. Della Robbia Room, Hotel Vanderbilt, New York, N. Y.
Feb. 12-13—Seminar on Computers and Data Processing in Industry. Purdue University, LaFayette, Ind.
Feb. 18-19—Chemical Market Research Association. Dinkler Plaza Hotel, Atlanta, Ga.
Mar. 4—AATT monthly meeting. Della Robbia Room, Hotel Vanderbilt, New York, N. Y.
Mar. 12-13—ASME Textile Engineering Div. annual spring meeting. Clemson House, Clemson, S. C.
Mar. 19-20—Southern Textile Methods and Standards Association spring meeting. Clemson House, Clemson, S. C.
Mar. 19-21—American Cotton Manufacturers Institute annual convention. Palm Beach Biltmore Hotel, Palm Beach, Fla.
Mar. 21—AATCC, South Central Section. Hotel Patten, Chattanooga, Tenn.
Mar. 26-27—Textile Quality Control Association spring meeting. N. C. State College, Raleigh, N. C.
Mar. 27—AATCC, Hudson-Mohawk Section. Chelsea House, Tribes Hill, N. Y.
Apr. 1—AATT monthly meeting. Della Robbia Room, Hotel Vanderbilt, New York, N. Y.
Apr. 2-3—Textile Subcommittee of American Institute of Electrical Engineers annual conference. Heart of Atlanta Motel, Atlanta, Ga.
Apr. 9-11—Alabama Textile Manufacturers Association annual convention. Hotel Buena Vista, Biloxi, Miss.
Apr. 10-11—AATCC, Piedmont Section. Robert E. Lee Hotel, Winston-Salem, N. C.
Apr. 13-17—National Packaging Exposition, sponsored by American Management Association. International Amphitheater, Chicago, Ill.
Apr. 15-16—National Knitted Outerwear Association annual meeting. Waldorf-Astoria Hotel, New York, N. Y.
Apr. 28-29—Institute Textile Technology meeting of Technical Advisory Committee and Board of Trustees. Charlottesville, Va.
Apr. 29-30—The Fiber Society, Inc. spring meeting. Fontana Village, N. C.
May 4—Nat'l Association Hosiery Manufacturers annual meeting. Claridge Hotel, Atlantic City, N. J.
May 4-8—Knitting Arts Exhibition. The Auditorium, Atlantic City, N. J.
May 5—93rd annual meeting Underwear Institute. Hotel Traymore, Atlantic City, N. J.
May 6—AATT monthly meeting. Della Robbia Room, Hotel Vanderbilt, New York, N. Y.
May 8-13—Tufted Textile Manufacturers annual convention. Cruise from Savannah, Ga. to Nassau.
May 12-14—Cotton Research Clinic. Grove Park Inn, Asheville, N. C.
May 12-16—Textile Institute annual conference. Scarborough, England.
May 18-23—National Cotton Week.
Jun. 3—AATT monthly meeting. Della Robbia Room, Hotel Vanderbilt, New York, N. Y.
Jun. 9-12—Material Handling Institute's Exposition. Public Auditorium, Cleveland, Ohio.
Sep. 12-21—3rd International Textile Exposition. Milan, Italy.
Oct. 7—Chemical-Finishing Conference, sponsored by the National Cotton Council. Mayflower Hotel, Washington, D. C.

Index to Advertisers

(*See previous or subsequent issues)

Allentown Bobbin Works, Inc. 69
Allied Chemical Corp.
National Aniline Div. 18
Nitrogen Division
Semet-Solvay Petrochemical Div. 9
Solvay Process Div. 29
American Bemberg 16
American Enka Corp. 10
American Lava Corp. IV Cover
American Viscose Corp.
Andrews & Goodrich
Arkansas Co., Inc. 11
Arnold, Hoffman & Co.
Atlantic Rayon Co. 67
Atlas Electric Devices Co. 59

Barber-Colman Co. 15
Borregaard Co., Inc., The 72
Butterworth & Sons Co., H. W. 23

Celanese Corp. of America, Yarn Div.
Ciba Company, Inc.
Chemstrand Corp.
ChemTex, Inc.
Cocker Machine & Foundry Co. 7
Collins Supply and Equipment Co.
Columbia-Southern Chem. Corp.
Corn Products Sales Co. 40
Courtaulds (Alabama), Inc. 71
Curlator Corp.

Dary Ring Traveler Co. 71
Davison Publishing Co.
Dayton Rubber Co., The 8
Denman Textile Rubber Co.
Dobson & Barlow, Ltd.
Dow Chemical Co., The
Draper Corporation II Cover
Duplan Corp. 42
Du Pont de Nemours & Co., E. I.
Dyestuff Department
Textile Fiber Department

Eastman Chem. Pro. Inc. 39
Emkay Chemical Co.
Engelhard Industries, Inc. Baker Platinum Div.

Fabulized, Inc.
Fancourt Co., W. F.
Fiske Bros. Refining Co. 63
Fletcher Works, Inc.
Foster Machine Co. 33
Franklin Process Co. 17

Gaston County Dyeing Machine Co.
Geigy Chemical Corp. 25
Globe Dye Works Co.
Guider Specialty Co., The 65

Hans J. Zimmer
Hart Products Corp.
Hartford Machines Screw Co.
Heany Industrial Ceramic Co. 65
Heresite & Chemical Co. III Cover
Herr Mfg. Co., Inc.
Hoffner Rayon Co. 61
Howard Bros. Mfg. Co.

Industrial Rayon Corp. 12,13
Interchemical Corp.

Johnson Corp., The

Kenyon Piece Dyeworks, Inc. 54
Kidde Manufacturing Co., Inc. 37
Knitting Arts Exhibition 14

Lambertville Ceramic & Mfg. Co. 72
Laurel Soap Mfg. Co.
Leatex Chemical Co.
Lindly & Co., Inc. 61
Loper Company, Ralph E.

Malina Company 67
Marshall & Williams Corp.
Mayer's Grand Guide
Metlon Corp.
Miller Corp., Harry
Milton Machine Works, Inc.
Mitchell-Bissell Co. 31

National Drying Machinery Co.
National Ring Traveler Co.
National Starch Prod., Inc.
National Vulcanized Fibre Co. Lestershire Spool Div.
New Departure, Div. of Gen. Motors
New York & New Jersey Lubricant Co.
Nopco Chemical Co. 32

Olin Mathieson Chem. Co.
Onyx Oil & Chemical Co. 27
Osaka Consultants Co., Ltd.

Page-Madden Co., Inc.
Penick & Ford, Ltd.
Perkins & Son, Inc., B. F.
Proctor & Schwartz, Inc.

Reynolds Metals Co.
Riordon Sales Corp., Ltd. 41
Roberts Company 5
Rhodia, Inc.

Saco-Lowell Shops
Scholler Bros. 21
Scott & Williams, Inc.
Scott Testers, Inc.
Simco Co., Inc.
Sonoco Products Co. 3
Southern Loom Development Co.
Southern Shuttle Div., Steel Heddle Mfg. Co.
Standard Chemical Products, Inc.
Stanley Works, The
Stauffer Chemical Company
Steel Heddle Mfg. Co.
Stein Hall
Synthetic Yarns, Div. D. W. Rich & Co., Inc.

Textile Banking Co.
Traphagen School of Fashion
Trumeter Co. 63
Turbo Machine Co.

Union Carbide Chem. Co. Div. Union Carbide Corp.
Chemical Dept.
Textile Fibers Dept.
U. S. Ring Traveler Co.
U. S. Textile Machine Co.
Universal Winding Co.
Uster Corp. 35

Verona Dyestuffs
Victor-Ring Traveler Co.

Walton & Lonsbury
Watson-Williams Mfg. Co.
Whitin Machine Works
Whitinsville Spinning Ring Co. 69

BUSINESS SERVICE

Bertner Yarn Co. 73
Chas. P. Raymond Service Inc. 73
National Aniline Div. 73
Rene Bouvet 73

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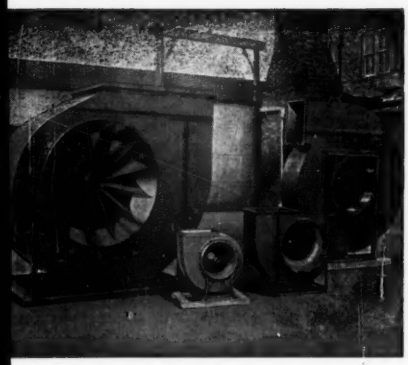

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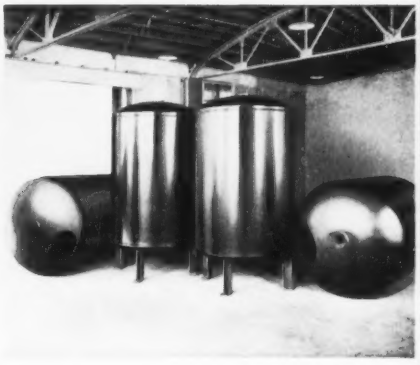

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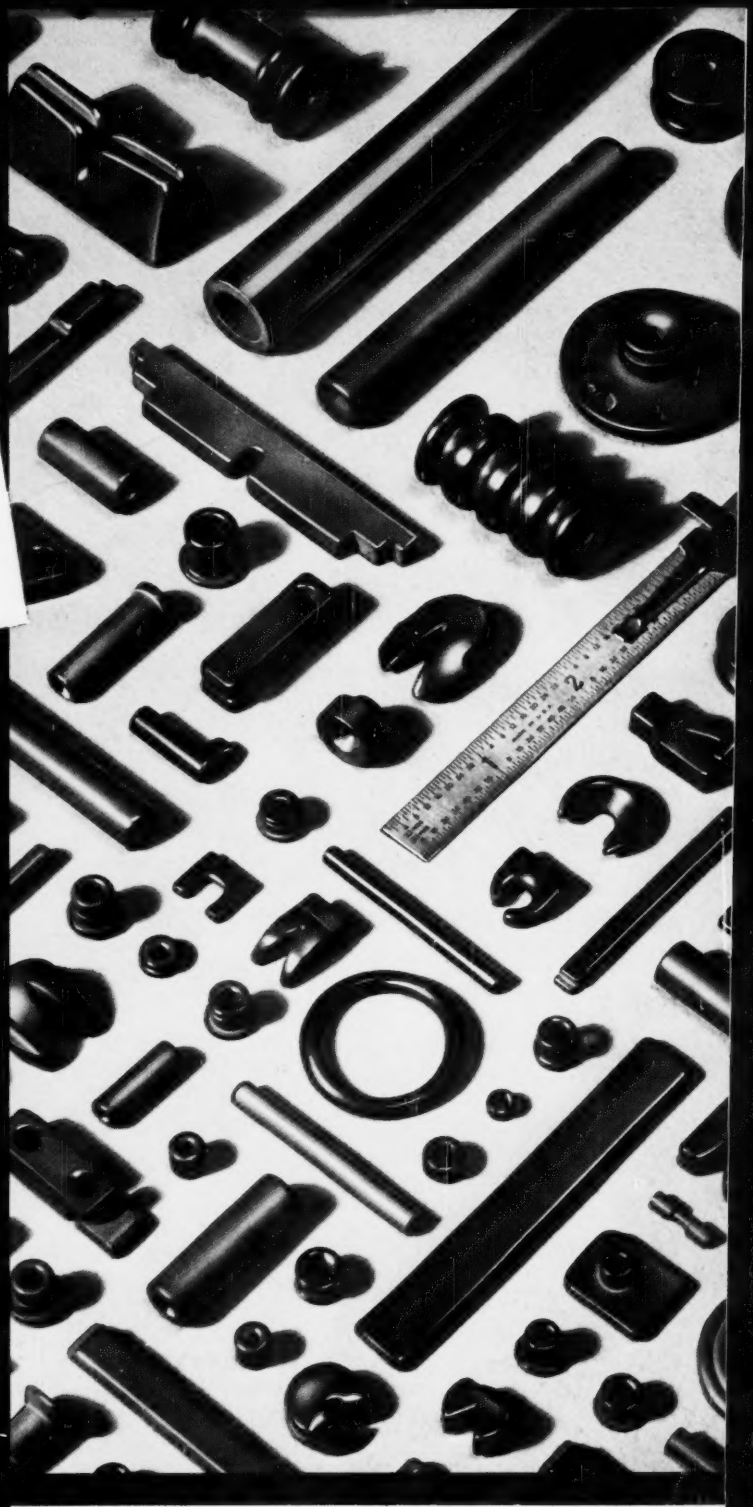

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